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May 10, 2012

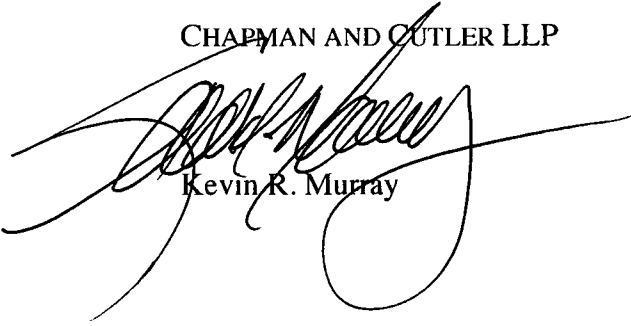
Andrea Madigan  
Region VIII  
Environmental Protection Agency  
1595 Wynkoop Street  
Denver, CO 80202-1129

Dear Andrea:

As we discussed on May 3, 2012, United Park is in agreement with this draft of the Administrative Order on Consent ("AOC") and placed the document in process on May 3 for signature. Attached is the executed copy of the AOC. United Park appreciates your efforts as well as those of the agency on this matter. If you have any questions, please do not hesitate to contact me.

Very truly yours,

CHAPMAN AND CUTLER LLP

  
Kevin R. Murray

KRM:ju  
Enclosure(s)  
cc: Matt Cohn

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION 8,  
UNITED STATES BUREAU OF LAND MANAGEMENT,  
UNITED STATES FISH AND WILDLIFE SERVICE,  
THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY,  
THE UTAH DIVISION OF PARKS AND RECREATION  
AND  
THE STATE OF UTAH NATURAL RESOURCE TRUSTEE

IN THE MATTER OF:	)	ADMINISTRATIVE SETTLEMENT
	)	AGREEMENT AND ORDER ON
Richardson Flat Tailings Site	)	CONSENT FOR EE/CA INVESTIGATIONS
Operable Units 3 & 4	)	AND REMOVAL ACTIONS
Park City, Utah	)	
	)	
Park City Municipal Corporation and	)	
United Park City Mines Company,	)	
	)	
Respondents	)	
	)	
Proceeding Under Sections 104, 106(a),	)	U.S. EPA Region 8
107 and 122 of the Comprehensive	)	CERCLA Docket No. _____
Environmental Response, Compensation,	)	
and Liability Act, as amended,	)	
42 U.S.C. §§ 9604, 9606(a), 9607	)	
and 9622.	)	
_____	)	

## Table of Contents

I.	Jurisdiction and General Provisions	Page 1
II.	Parties Bound	Page 2
III.	Statement of Purpose	Page 2
IV.	Definitions	Page 4
V.	Findings of Fact	Page 9
VI.	Conclusions of Law and Determinations	Page 11
VII.	Settlement Agreement and Order	Page 12
VIII.	Designation of Contractor, Project Coordinator, and On-Scene Coordinator	Page 12
IX.	EE/CA Work to be Performed	Page 15
X.	Natural Resource Injury Assessment and Restoration	Page 18
XI.	Performance of Removal	Page 19
XII.	Site Access and Institutional Controls	Page 25
XIII.	EPA Approval of Plans and Other Submissions	Page 26
XIV.	Access to Information	Page 28
XV.	Record Retention	Page 30
XVI.	Compliance With Other Laws	Page 31
XVII.	Emergency Response and Notification of Releases	Page 31
XVIII.	Payment of Response Costs and Assessment Costs	Page 32
XIX.	Dispute Resolution	Page 36
XX.	Force Majeure	Page 38
XXI.	Stipulated Penalties	Page 39
XXII.	Covenant Not to Sue by Environmental Agencies	Page 43
XXIII.	Reservations of Rights By Environmental Agencies	Page 44
XXIV.	Covenant Not to Sue By Respondents	Page 46
XXV.	Other Claims	Page 47
XXVI.	Contribution	Page 48
XXVII.	Indemnification	Page 48
XXVIII.	Insurance	Page 49

## Table of Contents

XXIX.	Financial Assurance	Page 50
XXX.	Modifications	Page 52
XXXI.	Upper Watershed Assessments	Page 52
XXXII.	Notice of Completion of Work	Page 52
XXXIII.	Administrative Record	Page 53
XXXIV.	Integration/Appendices/Notices	Page 53
XXXV.	Effective Date	Page 57



## **I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Settlement Agreement and Order on Consent (Settlement Agreement) is entered into voluntarily by Park City Municipal Corporation (Park City) and United Park City Mines Company (UPCM) and the United States Environmental Protection Agency (EPA), the Bureau of Land Management (BLM), the United States Fish and Wildlife Service (FWS), the Utah Department of Environmental Quality (UDEQ), the Utah Division of Parks and Recreation (UDPR), and the State of Utah Natural Resource Trustee. This Settlement Agreement provides for the preparation and performance of an Engineering Evaluation/Cost Analysis (EE/CA) and non-time critical removal action (Removal Action) for operable unit 3 (OU3) and operable unit 4 (OU4) of the Richardson Flat Tailings site located near Park City, Utah, as depicted on the map attached as Appendix A. UPCM will perform the EE/CA and Removal Action for OU3 and Park City will perform the EE/CA and Removal Action for OU4. This Settlement Agreement also provides for the reimbursement of Future Response Costs incurred by EPA and BLM in connection with the EE/CAs and Removal Actions. In addition, this Settlement Agreement provides for the preparation of a Natural Resource Injury Assessment and Restoration Alternatives Analysis for both OU3 and OU4 by UPCM and Park City respectively, and the reimbursement of the Natural Resource Trustees' Future Assessment Costs.

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622, as amended (CERCLA). This authority was delegated to the Administrator of EPA and the Secretary of the Interior on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (Jan. 29, 1987), as amended. This authority was further delegated by the EPA Administrator to Regional Administrators on May 11, 1994, by EPA Delegation Nos. 14-14-C and 14-14-D and by the Interior Secretary to the Director of FWS and the Director of BLM pursuant to Part 207, Chapter 7 of the Department of the Interior's Manual. The authority delegated to the Regional Administrator of EPA Region 8 was further delegated to the Assistant Regional Administrator, Office of Ecosystem Protection and Remediation by EPA Delegation No. 14-14-C. The authority delegated to the Directors of BLM and FWS was further delegated to the BLM State Directors and FWS Regional Directors, respectively.

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), the EPA notified the United States Department of the Interior and the State of Utah of the release of hazardous substances that may have resulted in injury to the natural resources under federal and state trusteeship at OU3 and OU4 and of negotiations with potentially responsible parties.

4. The Parties recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by each Respondent in accordance with this Settlement Agreement do not constitute an admission of any liability. Neither Respondent admits, and each Respondent retains the right to controvert in any subsequent proceedings, other than proceedings

to implement or enforce this Settlement Agreement, the validity of the findings of facts, conclusions of law, and determinations in Sections V and VI of this Settlement Agreement. Furthermore, neither Respondent admits any responsibility or liability for environmental nor contaminant issues at the Site or within the Upper Watershed. The Parties agree to comply with and be bound by the terms of this Settlement Agreement and further agree that they will not contest the basis or validity of this Settlement Agreement or its terms.

## **II. PARTIES BOUND**

5. This Settlement Agreement applies to and is binding upon the Parties and their successors and assigns. Any change in ownership or corporate status of either Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Settlement Agreement.

6. Each Respondent shall ensure that its contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Each Respondent shall be responsible for any noncompliance with requirements of this Settlement Agreement for which it is responsible.

7. Each undersigned representative of the Parties certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement and to execute and legally bind his or her Party to this Settlement Agreement.

## **III. STATEMENT OF PURPOSE**

8. In entering into this Settlement Agreement, the objectives of the Parties are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from OU3 and OU4, by conducting an engineering evaluation with respect to these operable units as more specifically set forth in the EE/CA Work Plan for OU3 attached as Appendix C to this Settlement Agreement and the EE/CA Work Plan for OU 4 to be prepared in accordance with the OU4 Statement of Work attached as Appendix D to this Settlement Agreement; (b) to identify and evaluate alternatives to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants or contaminants at or from these operable units, by conducting a cost analysis for each as more specifically set forth in the respective EE/CA Work Plans; (c) to conduct all actions necessary to implement the Removal Actions to be selected by EPA in the Action Memorandum for OU3 and the Action Memorandum for OU4, in accordance with the Removal Action Work Plan for OU3 and the Removal Action Work Plan for OU4 to be developed hereunder; (d) to assess injuries to natural resources and identify and evaluate opportunities for coordinating or integrating implementation of natural resource restoration with the Removal Action selected for each OU; (e) to recover response and assessment costs incurred by the Environmental Agencies with respect to this Settlement Agreement; and (f) to specify the extent to which the Respondents each share in the

costs and obligations of performing the Work. In general and subject to any contribution requirements outlined in Paragraphs 52 and 81 herein, and except as expressly provided otherwise in this Settlement Agreement, UPCM shall be responsible for implementing the EE/CA and Removal Action for OU3 and Park City shall be responsible for implementing the EE/CA and Removal Action for OU4.

9. The Work conducted under this Settlement Agreement is subject to oversight and approval by EPA and, with respect to the Work occurring on or affecting land under the jurisdiction, custody or control of BLM (identified herein as the "Silver Maple Claims"), the concurrence of BLM, and shall provide all appropriate and necessary information to assess conditions at OU3 and OU4 and evaluate alternatives to the extent necessary to select a response action that will be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 (NCP). Each Respondent shall conduct all Work under this Settlement Agreement in compliance with CERCLA, the NCP, and all applicable EPA guidance, policies, and procedures. Upon execution of this Settlement Agreement by all Parties, Park City shall be allowed to dispose of a total of 35,000 cubic yards of Development Waste in the OU1 Repository. Park City shall be required to pay to UPCM a Tipping Fee of \$10 per cubic yard of Development Waste disposed of at the OU1 Repository.

10. UPCM shall be responsible for preparing the Natural Resource Injury Assessment and Restoration Alternatives Analysis for OU3 and Park City shall be responsible for preparing the Natural Resource Injury Assessment and Restoration Alternatives Analysis for OU4. The Natural Resource Injury Assessment and Restoration Alternatives Analyses prepared pursuant to this Settlement Agreement are subject to the approval of the Natural Resource Trustees and shall provide all appropriate and necessary information to identify and quantify any actual and potential injuries to natural resources at OU3 and OU4, including injuries that may have already occurred as a result of the release of hazardous substances at or from OU3 and OU4 respectively, and injuries that could result from the selected Removal Actions and evaluate restoration alternatives to the extent necessary to prepare a restoration plan to restore, rehabilitate or replace injured resources.

11. In implementing this Settlement Agreement, Respondents shall coordinate with the Natural Resource Trustees. The Natural Resource Trustees shall be provided with substantial and meaningful opportunities to review and comment on plans, reports, and other items submitted to EPA for approval under this Settlement Agreement in order to ensure (a) that the EE/CA activities undertaken hereunder are coordinated with the Natural Resource Injury Assessment and Restoration Alternatives Analysis; and (b) that the development, evaluation, and selection of removal action alternatives can take into consideration the anticipated effects of such removal actions on natural resources and, where appropriate, can take into consideration opportunities for efficient coordination of removal actions and natural resource restoration measures.

#### **IV. DEFINITIONS**

12. Unless otherwise expressly provided in this Settlement Agreement, terms used in this Settlement Agreement which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

“Action Memorandum for OU3” shall mean the EPA Action Memorandum that will be issued by EPA for OU3, with the concurrence of BLM with respect to the Silver Maple Claims, upon completion of the EE/CA for OU3.

“Action Memorandum for OU4” shall mean the EPA Action Memorandum that will be issued by EPA for OU4 upon completion of the EE/CA for OU4.

“ASARCO Settlement Funds” shall mean those funds paid to EPA pursuant to the Amended Settlement Agreement Regarding Miscellaneous Federal and State Environmental Sites approved by the U.S. Bankruptcy Court for the Southern District of Texas, Corpus Christi Division, on June 5, 2009, resolving among other things the liability of ASARCO, LLC for the Site.

“BLM” shall mean the United States Bureau of Land Management and any successor departments or agencies of the United States.

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*

“CERCLA Waste” shall mean all Waste Material generated from response actions at the Site.

“Day” shall mean a calendar day. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

“Development Waste” shall mean all soils contaminated by mining activities that are exempt from RCRA Subtitle C pursuant to Section 3001(b)(3)(A)(ii), 42 U.S.C. §6921(b)(3)(A)(ii), and originate from Park City municipal activities or from property designated by Park City within the Soil Ordinance Boundary as defined in the Park City Landscaping and Maintenance of Soil Cover Ordinance, Park City Municipal Code, Title 11, Chapter 15, as of the Effective Date.

“EE/CA Work Plans” shall mean the work plan for the performance of the EE/CA for OU3 attached hereto as Appendix C and the work plan for the performance of the EE/CA for

OU4 to be prepared in accordance with the OU4 Statement of Work attached hereto as Appendix D. The EE/CA Work Plan for OU3 is incorporated into this Settlement Agreement and is an enforceable part of this Settlement Agreement. Upon approval by EPA in accordance with this Settlement Agreement, the EE/CA Work Plan for OU4 is incorporated into this Settlement Agreement and is an enforceable part of this Settlement Agreement. In the event of a conflict between this Settlement Agreement and the EE/CA Work Plans, this Settlement Agreement shall control.

"Effective Date" shall be the effective date of this Settlement Agreement as provided in Section XXXV.

"Environmental Agencies" shall mean EPA, BLM, FWS, UDEQ, and the State Natural Resource Trustee.

"Empire Pass Assessment Program" shall mean the assessment program described in the Resource Management Consultant's 2002 Flagstaff Mountain Resort, Report of Sampling Activities with the Area of Proposed Development.

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

"Federal Environmental Agencies" shall mean EPA, BLM, and FWS.

"Federal Trustees" shall mean BLM and FWS.

"Future Assessment Costs" shall mean all costs incurred by the Natural Resource Trustees in the oversight, review, comment and technical assistance provided on the Natural Resource Injury Assessment and Restoration Alternatives Analysis as further described in the Scopes of Work attached hereto as Appendices G and H.

"Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that EPA and BLM incur in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry ("ATSDR") costs, the costs incurred pursuant to Paragraph 54 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 76 (emergency response), and Paragraph 105 (work takeover).

"FWS" shall mean the United States Fish and Wildlife Service and any successor departments or agencies of the United States.

"Institutional Controls" shall mean proprietary controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (i) limit land, water, and/or resource use to minimize the potential for exposure to Waste Materials at the Site; (ii) limit land, water, and/or resource use to implement, ensure non-interference with, or ensure the protectiveness of the Removal Action; and/or (iii) provide information intended to modify or guide human behavior at the Site.

"Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

"Middle Reach" shall mean that portion of OU3, consisting of approximately 116 acres, that is near the eastern end of the Prospector Park in Park City, Utah, and extends to U.S. Highway 40 and includes the Silver Maple Claims portion of the Site. OU3 is depicted generally on the map attached as Appendix A and the Silver Maple Claims portion of OU3 is depicted generally on the map attached as Appendix B.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

"Natural Resource Trustees" shall mean FWS, BLM, and the State Natural Resource Trustee

"Natural Resource Injury Assessment and Restoration Alternatives Analyses" shall mean the activities described in Section X of this Settlement Agreement and the Scopes of Work attached hereto as Appendices G and H.

"OU1 Consent Decree" shall mean the RD/RA Consent Decree for OU1 captioned *United States of America v United Park City Mines Company* entered on October 4, 2007 by the United States District Court for the District of Utah under case number 2:07-cv-00642.

"OU1 Repository" shall mean the mine waste repository constructed in accordance with the July 7, 2005, Record of Decision selecting the remedy for OU1 of the Site.

"OU3" shall mean an area beginning at the southern and most up gradient portion of the Silver Maple Claims and then proceeding downstream to the Middle Reach and including parcels formerly addressed by the RI/FS for OU2 identified as all or a portion of Summit County Assessor parcel numbers SS-28-A-1-X, SS-27-B-X, SS-28-A-X, SS-56, SS-56-A-1, SS-56-UP-X, SS-56-A, SS-64-A, SS-64-1000-UP-X, SS-65-A-3-1, SS-65-A-5, SS-65-A-3, SS-65-1, SS-65-A-6, SS-88 and excluding any areas within OU4. OU3 is depicted generally on the map

attached as Appendix A and the Silver Maple Claims are depicted generally on the map attached as Appendix B.

"OU4" shall mean the discharge from the Prospector Drain, which is identified by EPA and UDEQ as a point source pursuant to the Clean Water Act that has caused or has the potential to cause a release of hazardous substances at or from the Site and includes any areas in close proximity necessary to accomplish the response action goals. OU4 is depicted generally on the map attached hereto as Appendix A.

"OU4 Statement of Work" shall mean the plan for the development of the EE/CA Work Plan for OU4 attached hereto as Appendix D. The OU4 Statement of Work is incorporated into this Settlement Agreement and is an enforceable part of this Settlement Agreement.

"OU4 Trust Fund" shall mean the trust fund to be created by Park City in accordance with Paragraph 52.

"Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral.

"Parties" shall mean EPA, BLM, FWS, UDEQ, UDPR, the State Natural Resource Trustee, UPCM and Park City.

"Proceedings" shall mean any judicial or administrative proceedings or municipal actions or undertakings.

"Removal Action" shall mean all actions necessary to implement the non-time critical removal action remedy to be selected by EPA in (i) the Action Memorandum for OU3 at the conclusion of the EE/CA for OU3 or (ii) the Action Memorandum for OU4 at the conclusion of the EE/CA for OU4 including post-removal site control.

"Removal Action Work Plan" shall mean the work plan to be developed in accordance with this Settlement Agreement for the implementation of each Removal Action. Each Removal Action Work Plan will be incorporated into this Settlement Agreement and will be an enforceable part of this Settlement Agreement as are any modifications made thereto in accordance with this Settlement Agreement. In the event of a conflict between this Settlement and either Removal Action Work Plan, this Settlement Agreement shall control.

"Respondents" shall mean Park City Municipal Corporation and United Park City Mines Company.

"RI/FS AOC for OU2" shall mean the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study, CERCLA Docket No. 08-2009-0007, dated September 29, 2009, between UPCM and EPA.

"Section" shall mean a portion of this Settlement Agreement identified by a Roman numeral.

"Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXXIV). In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

"Silver Maple Claims" shall mean that portion of the Site comprising public land under the jurisdiction, custody, or control of the BLM, consisting of approximately 34 acres, near the eastern end of the Prospector Park in Park City, Utah, as depicted generally on the map attached as Appendix B.

"Site" shall mean the areas depicted generally as OU1, OU2, OU3 and OU4 on the map attached as Appendix A. The Site shall also include any areas in close proximity to the property previously described and necessary to accomplish the response action goals.

"State" or "State of Utah" shall mean the State of Utah by and through UDEQ, UDPR and the State Natural Resource Trustee.

"State Natural Resource Trustee" shall mean the Natural Resource Trustee for the State of Utah.

"Tipping Fee" shall mean the fee paid per cubic yard for disposal of CERCLA Waste or Development Waste in an on-Site mine waste repository where such mine waste has been loaded and hauled from a location outside the boundaries of where such repository is located.

"UDEQ" shall mean the State of Utah Department of Environmental Quality.

"UDPR" shall mean the State of Utah Division of Parks and Recreation.

"Upper Watershed" shall mean all areas depicted within the yellow boundary of the map attached hereto as Appendix F.

"Waste Material" shall mean 1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14) and 2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33).

"Work" shall mean all activities each Respondent respectively is required to perform under the EPA- approved EE/CA Work Plans, the Removal Action Work Plans or any other work plan developed and approved by EPA pursuant to this Settlement Agreement and subject to EPA approval, except those activities required by Section XV (Retention of Records).



## **V. FINDINGS OF FACT**

13. Mining operations undertaken by various entities within the Park City Mining District reportedly produced approximately 16 million tons of ore between 1875 and 1982. As a result of contamination resulting from such operations, EPA proposed to include the Richardson Flat Tailings Site on the National Priorities List (NPL) on June 24, 1988. Due to scoring issues and comments received from Respondents and others during the public comment period, the Site was removed from NPL consideration in February 1991. The Site was re-proposed for the NPL on February 7, 1992. No action has been taken with regard to finalizing this proposed listing.

14. Since the proposed listing, the Site has been expanded and EPA has organized the Site into four operable units (OUs).

15. On July 7, 2005, EPA, with the concurrence of UDEQ, issued a Record of Decision (ROD) selecting the remedy for OU1, an area covering approximately 258 acres, which acreage includes a tailings impoundment covering approximately 160 acres of land immediately southeast of the junction of U.S. Highway 40 and Utah Highway 248 in Summit County, Utah. The selected remedy provided for removing contaminated sediments from nearby wetlands and covering contaminated sediments in diversion ditches. In addition, the remedy provided for the consolidation and capping of waste material in a repository (OU1 Repository), and imposing deed restrictions on future land and ground water use. The ROD was subsequently modified to allow for the removal of contaminated sediments in the diversion ditches. UPCM is implementing this remedy in accordance with the provisions of the OU1 Consent Decree.

16. EPA initially designated OU2 of the Site to address mine waste and tailings created by various entities that had been transported downstream of OU1 along the banks of Lower Silver Creek, from U.S. Highway 40 on the southern end to Interstate 80 on the northern end. UPCM agreed to perform a remedial investigation and feasibility study pursuant to the RI/FS AOC for OU2 executed in September 2009. Thereafter, EPA determined that OU2 should be expanded and reconfigured to include additional operable units.

17. OU3 encompasses approximately 836 acres located east of Park City in areas along Silver Creek. OU3 includes the Middle Reach, and parcels comprising approximately 720 acres of land along the flood plain of Silver Creek that were formerly part of OU2 (all or portions of Summit County Assessor parcel numbers SS-28-A-1-X, SS-27-B-X, SS-28-A-X, SS-56, SS-56-A-1, SS-56-UP-X, SS-56-A, SS-64-A, SS-64-1000-UP-X, SS-65-A-3-1, SS-65-A-5, SS-65-A-3, SS-65-1, SS-65-A-6, and SS-88).

18. OU4 consists of the outfall from Prospector Drain, an underground pipe that runs in the vicinity of a subdivision of Park City known as Prospector Square and a municipal park named Prospector Park. The Prospector Drain collects shallow groundwater from areas in and around Prospector Park and Prospector Square. It then discharges a portion of this flow to a constructed treatment wetland and the remainder to a natural wetland area on or near the Silver Maple

Claims. OU4 also includes any areas in close proximity to the Prospector Drain necessary to accomplish the response action goals. The Prospector Drain was constructed in conjunction with the development of the Prospector Park and Prospector Square area during the late 1970s when buildings were built atop tailings material.

19. Soil samples have indicated elevated concentrations of lead, arsenic, zinc and cadmium in certain soils in the most down gradient portion within OU3. Water samples from the Prospector Drain have indicated elevated concentrations of cadmium, lead, zinc, and arsenic. Surface water sampling in certain stretches of Silver Creek has identified concentrations of cadmium, lead, and zinc that exceed water quality standards.

20. The primary land use on and around OU3 and OU4 is residential, business/commercial, and commercial livestock grazing. However, the land is also used for recreational purposes. A former rail line has been converted to a recreational trail and is now used extensively for hiking, biking, observing wildlife and accessing Silver Creek for fishing.

21. UPCM is a Delaware corporation doing business in the State of Utah. UPCM conducted various mining related operations within the Park City Mining District until approximately 1969. Others, including some predecessors-in-interest of UPCM, also conducted mining operations in the area. These activities included the mining of ore from the Ontario and Daly West mines. EPA asserts that mining waste from these operations has been carried down-stream and has impacted portions of the Site. UPCM owns portions of OU3 known as the "floodplain tailings area" which is located east of U.S. Highway 40, south of Utah Highway 248 and west of the old Union Pacific Railroad right-of-way, approximately twenty-two (22) acres in size.

22. Park City is a municipal corporation organized and existing under the laws of the State of Utah. Park City is the current owner of portions of OU3 including portions of the Middle Reach and three of the former OU2 parcels (Summit County Assessor parcel numbers SS-28-A-1-X, SS-27-B-X, and SS-28-A-X). These three parcels comprise approximately 180 acres of the northernmost portion of OU3 and include approximately 50 acres of historic mine tailings. Park City is also the current owner of portions of the property through which the Prospector Drain runs and is the current operator of the outfall from the Prospector Drain.

23. On behalf of the United States, BLM manages the Silver Maple Claims.

24. UDPR was deeded the Union Pacific Railroad right-of-way (which runs along Silver Creek through OU3) on May 11, 1989 pursuant to the National Trail System Act (Trails Act), 16 U.S.C. § 1247 et seq., and a decision of the Interstate Commerce Commission. The Trails Act provides for the preservation of discontinued railroad rights-of-way by banking the rights-of-way for possible future reactivation, and in the interim, making the railroad corridor available for use as a recreational trail. It is the expectation of the Environmental Agencies that the integrity of the Rail Trail will be preserved or restored so that it is suitable for interim trail use and future railway activation.

25. Exposure to heavy metals including lead, cadmium and arsenic may cause adverse health effects in humans. Ecosystems near sources of heavy metals may also experience adverse effects including loss of biodiversity, changes in community composition, decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

## **VI. CONCLUSIONS OF LAW AND DETERMINATIONS**

26. Based on the Findings of Fact set forth above, and the administrative record supporting these response actions, EPA has determined that:

a. OU3 and OU4 are "facilities" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contamination found at OU3 and OU 4, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. The conditions described in the Findings of Fact above constitute an actual and/or threatened "release" of hazardous substances from the facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

d. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

e. Each Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Park City is an "owner" and/or "operator" of the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1). UPCM is or was an "owner" and/or "operator" of a facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

f. The actions required by this Settlement Agreement are necessary to protect the public health, welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective removal actions and minimize litigation, 42 U.S.C. § 9622(a).

g. EPA has determined that each Respondent is qualified to conduct the Work specifically assumed by such Respondent pursuant to this Settlement Agreement within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), by complying with the terms of this Settlement Agreement.

## **VII. SETTLEMENT AGREEMENT AND ORDER**

27. Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the administrative record for this Site, it is hereby ordered and agreed that the Parties shall comply with all provisions of this Settlement Agreement, including, but not limited to, all attachments to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

## **VIII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR**

28. EE/CA. All Work conducted under this Settlement Agreement in performance of the EE/CAs shall be under the direction and supervision of qualified personnel.

a. UPCM has notified EPA that it intends to use the following personnel in carrying out the EE/CA Work for OU3: UPCM personnel under the direction of Kerry C. Gee, and Resource Management Consultants, Inc., under the direction of James Fricke. EPA hereby approves UPCM's selection of the foregoing contractors and personnel. UPCM shall notify EPA in writing of any changes or additions in the contractors or personnel used to carry out such Work, providing names, titles, and qualifications. EPA shall have the right to disapprove changes and additions to contractors or personnel in its discretion. If EPA disapproves in writing of any person's or contractor's technical qualifications, UPCM shall notify EPA of the identity and qualifications of the replacement within thirty (30) days of the written notice. If EPA disapproves of designated contractors or personnel, UPCM shall retain different contractors or personnel and shall notify EPA of the name(s), address(es), telephone number(s) and qualifications within fifteen (15) days following EPA's disapproval.

b. UPCM has designated Kerry C. Gee as its project coordinator who shall be responsible for administration of all actions by UPCM required pursuant to this Settlement Agreement. EPA hereby approves UPCM's selection of the foregoing project coordinator. To the greatest extent possible, the project coordinator shall be present on the Site or readily available during the Work for which UPCM is responsible. UPCM shall have the right to change its project coordinator, subject to EPA's right to disapprove. UPCM shall notify EPA thirty (30) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. If EPA disapproves of the designated project coordinator, UPCM shall retain a different project coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within fifteen (15) days following EPA's disapproval.

c. Park City has notified EPA that it intends to use the following personnel in carrying out the EE/CA Work for OU4: Park City personnel under the direction of James Blankenau and URS Corporation under the direction of Donald Champenois, Senior Project Manager. EPA hereby approves Park City's selection of the foregoing contractors and personnel. Park City shall

notify EPA in writing of any changes or additions in the contractors or personnel used to carry out such Work, providing names, titles, and qualifications. EPA shall have the right to disapprove changes and additions to contractors or personnel in its discretion. If EPA disapproves in writing of any person's or contractor's technical qualifications, Park City shall notify EPA of the identity and qualifications of the replacement within thirty (30) days of the written notice. If EPA disapproves of designated contractors or personnel, Park City shall retain different contractors or personnel and shall notify EPA of the name(s), address(es), telephone number(s) and qualifications within fifteen (15) days following EPA's disapproval.

d. Park City has designated James Blankenau as its project coordinator who shall be responsible for administration of all actions by Park City required pursuant to this Settlement Agreement. EPA hereby approves Park City's selection of the foregoing project coordinator. To the greatest extent possible, the project coordinator shall be present on the Site or readily available during the Work for which Park City is responsible. Park City shall have the right to change its project coordinator, subject to EPA's right to disapprove. Park City shall notify EPA thirty (30) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. If EPA disapproves of the designated project coordinator, Park City shall retain a different project coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within fifteen (15) days following EPA's disapproval.

## 29. Removal Actions.

a. All Work conducted under this Settlement Agreement by each Respondent in performance of the Removal Actions shall be under the direction and supervision of qualified personnel. Within sixty (60) days following EPA's issuance of the Action Memorandum for OU3, and before OU3 Removal Action Work commences, UPCM shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. Within sixty (60) days following EPA's issuance of the Action Memorandum for OU4, and before the OU4 Removal Action Work commences, Park City shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. With respect to any proposed contractor, each Respondent shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or more recent version), by submitting a copy of the proposed contractor's Quality Management Plan (QMP). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001 or subsequently issued guidance) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for each Respondent shall be subject to EPA's review, for verification that such persons meet minimal technical background and

experience requirements. This Settlement Agreement is contingent on each Respondent's demonstration to EPA's satisfaction that it is qualified to perform properly and promptly the actions for which it is responsible as set forth in this Settlement Agreement. If EPA disapproves in writing of any person's technical qualifications, the applicable Respondent shall notify EPA of the identity and qualifications of the replacement within thirty (30) days following the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Settlement Agreement with respect to such Respondent, to conduct the removal, and to seek reimbursement of costs and penalties from such Respondent. Each Respondent shall notify EPA in writing of any changes or additions in the personnel used to carry out the Work for which such Respondent is responsible, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

b. Within fifteen (15) days following EPA's issuance of the Action Memorandum for OU3, UPCM shall designate a project coordinator who shall be responsible for administration of all OU3 Removal Action Work and shall submit to EPA the designated project coordinator's name, address, telephone number, and qualifications. Within fifteen (15) days following EPA's issuance of the Action Memorandum for OU4, Park City shall designate a project coordinator who shall be responsible for administration of all OU4 Removal Action Work and shall submit to EPA the designated project coordinator's name, address, telephone number, and qualifications.

To the greatest extent possible, project coordinators shall be present on the Site or readily available during performance of the Work for which they are responsible. EPA retains the right to disapprove of a designated project coordinator. If EPA disapproves of the designated project coordinator, the applicable Respondent shall retain a different project coordinator and shall notify EPA of that person's name, address, telephone number, and qualifications within fifteen (15) days following EPA's disapproval. Receipt by Respondents' respective project coordinator shall constitute receipt by such Respondent of any notice or communication from EPA relating to this Settlement Agreement.

30. EPA has designated Kathryn Hernandez of EPA's Ecosystems Protection and Remediation Office, Region 8, as its project coordinator. EPA will notify Respondents of a change of EPA's designated project coordinator. Each Respondent shall direct all submissions required by this Settlement Agreement regarding the Work to EPA's project coordinator at:

Kathryn Hernandez  
Project Manager  
Superfund Remedial Section, 8EPR-RA  
US EPA, Region 8  
1595 Wynkoop Street  
Denver, Colorado 80202

31. EPA's project coordinator shall have the authority lawfully vested in a remedial project manager (RPM) and on-scene coordinator (OSC) by the NCP. In addition, EPA's project coordinator shall have the authority consistent with the NCP, to halt any Work required by this

Settlement Agreement, and to take any necessary response action when she determines that conditions at OU3 or OU4 may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA project coordinator from the Site shall not be cause for the stoppage or delay of Work.

32. EPA is the party responsible for oversight of each of the Respondent's performance of the Work pursuant to this Settlement Agreement with opportunity for substantial and meaningful involvement by UDEQ. EPA shall arrange for a qualified person to assist in its oversight and review of both the conduct of the EE/CAs and the Removal Actions, as required by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a). Such person shall have the authority to observe all Work and make inquiries in the absence of EPA, but not to modify the EE/CA Work Plans or the Removal Action Work Plans.

33. EPA and Respondents shall have the right, subject to Paragraph 28 or 29, to change their designated project coordinator. Each Respondent shall notify EPA thirty (30) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notice. If EPA disapproves of the change in any designated project coordinator, the applicable Respondent shall retain a different project coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within fifteen (15) days following EPA's disapproval.

#### **IX. EE/CA WORK TO BE PERFORMED**

34. a. UPCM shall conduct the EE/CA for OU3. UPCM shall conduct the Work activities related to performance of the OU3 EE/CA in accordance with the provisions of this Settlement Agreement, the OU3 EE/CA Work Plan attached hereto as Appendix C, CERCLA, the NCP, and EPA guidance. UPCM and EPA intend to modify the RI/FS AOC for OU2 to address any duplicative or contradictory elements included in this Settlement Agreement. In the meantime, in the event of a conflict between this Settlement Agreement and the RI/FS AOC for OU2, this Settlement Agreement shall control. UPCM and EPA are also signatories to the OU1 Consent Decree which governs UPCM's obligations to perform work at OU1. Nothing in this Settlement Agreement alters UPCM's obligations under the OU1 Consent Decree.

b. Park City shall conduct the EE/CA for OU4. Park City shall conduct the Work activities related to performance of the OU4 EE/CA in accordance with the provisions of this Settlement Agreement, the OU4 Statement of Work attached hereto as Appendix D, CERCLA, the NCP, and EPA guidance. Within sixty (60) days after the Effective Date, Park City shall submit to EPA for approval a draft work plan for the performance of the OU4 EE/CA. The draft EE/CA Work Plan shall provide a description of and an expeditious schedule for the actions required to implement the OU4 EE/CA.

c. The Engineering Evaluation (EE) shall consist of collecting data to characterize conditions at the subject operable unit, determining the nature and extent of the contamination at or from such operable unit, and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Cost Analysis (CA) shall determine and evaluate (based on treatability testing, where appropriate) alternatives for the Removal Action to prevent, mitigate or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants or contaminants at or from the subject operable unit. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and shall include removal actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, each Respondent shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.415 of the NCP, 40 C.F.R. § 300.415 and applicable guidance. Upon request by EPA, Respondents shall submit in electronic form all portions of any plan, report or other deliverable such Respondent is required to submit pursuant to provisions of this Settlement Agreement.

35. Upon receipt of the draft EE/CA report submitted by each Respondent (which shall contain such Respondent's evaluation of the durability, reliability and effectiveness of any proposed Institutional Control) EPA will evaluate, as necessary, the estimates of risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the durability, reliability and effectiveness of any proposed Institutional Controls.

36. Modification of the EE/CA Work Plans

a. If either Respondent identifies a need for additional data with respect to the Work for which it is responsible, such Respondent shall submit a memorandum documenting the need for additional data to the EPA project coordinator within seven (7) days of identification. EPA in its discretion will determine whether the additional data shall be collected by such Respondent and whether it will be incorporated into plans, reports and other deliverables.

b. In the event of unanticipated or changed circumstances at OU3 or OU4, each Respondent shall notify the EPA project coordinator within twenty-four (24) hours following discovery of the unanticipated or changed circumstances. In the event EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in either of the EE/CA Work Plans, EPA shall modify or amend such EE/CA Work Plan(s) in writing accordingly in a manner not inconsistent with each Respondent's obligations under this Settlement Agreement. The responsible Respondent shall perform the EE/CA Work Plan as modified or amended.

c. EPA may, after consultation with the responsible Respondent, determine that in addition to tasks defined in either of the initially approved EE/CA Work Plans, other additional



Work consistent with Section III (Statement of Purpose) may be necessary to accomplish the objectives of the EE/CA. The responsible Respondent agrees to perform these actions in addition to those required by the initially approved EE/CA Work Plan, including any approved modifications, if EPA determines that such actions are necessary for a complete EE/CA.

d. Each Respondent shall confirm their willingness to perform the additional Work in writing to EPA within seven (7) days of receipt of the EPA request. If either Respondent objects to any modification determined by EPA to be necessary pursuant to this Paragraph, such Respondent may seek dispute resolution pursuant to Section XIX (Dispute Resolution). The EE/CA Work Plans shall be modified in accordance with the final resolution of the dispute.

e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the EE/CA Work Plan or written EE/CA Work Plan supplement. Subject to Paragraph 105, EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from the responsible Respondent, and/or to seek any other appropriate relief.

f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

37. Meetings. Each Respondent shall make presentations at, and participate in, meetings with the Environmental Agencies at the request of EPA during the initiation, conduct, and completion of the EE/CA for which such Respondent is responsible. In addition to discussion of the technical aspects of the EE/CA, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

38. EE/CA Progress Reports. In addition to the plans, reports and other deliverables set forth in this Settlement Agreement, each Respondent shall provide to the Environmental Agencies quarterly progress reports by the 15th day of each January, April, July and October following the Effective Date until completion of the EE/CA. Each Respondent shall also concurrently provide a copy of its quarterly progress report to the other Respondent. At a minimum, with respect to the preceding quarter, these progress reports shall (1) describe the actions which have been taken by such Respondent to comply with this Settlement Agreement during that quarter, (2) include all results of sampling and tests and all other data received by such Respondent, (3) describe Work planned for the next two quarters with schedules relating such Work to the overall project schedule for EE/CA completion, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays. These quarterly progress reports shall be delivered to each of the recipients designated in this Paragraph 38 electronically.

39. Quality Assurance. Each Respondent shall assure that Work performed, samples taken and analyses conducted conform to the requirements of the applicable EE/CA Work Plan, the QAPP and guidances identified therein. Each Respondent will assure that field personnel used

by such Respondent are properly trained in the use of field equipment and in chain of custody procedures. Each Respondent shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

40. Sampling

a. All results of sampling, tests, modeling, or other data (including raw data) generated by Respondents, or on their behalf, during the period that this Settlement Agreement is effective, shall be submitted to the Environmental Agencies in the next quarterly progress report. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

b. Each Respondent shall verbally notify the Environmental Agencies at least thirty (30) days prior to conducting significant field events for which it is responsible as described in the applicable EE/CA Work Plan or Sampling and Analysis Plan. UDPR shall also be notified at least thirty (30) days in advance for any such field events to take place on property owned or managed by UDPR. At EPA's verbal or written request, or the request of EPA's oversight assistant, each Respondent shall allow split or duplicate samples to be taken by the Environmental Agencies (and their authorized representatives) of any samples collected in implementing this Settlement Agreement. All split or duplicate samples shall be analyzed by the methods identified in the QAPP. Upon request, EPA shall allow the requesting Respondent to take split or duplicative samples of any samples collected by EPA as part of EPA's oversight of the requesting Respondent's performance of Work.

41. Each Respondent shall submit to the Environmental Agencies two (2) copies of all plans, reports or other submissions required by this Section IX, the applicable EE/CA Work Plan, and any other approved work plans. Each Respondent shall also submit a copy of all such plans, reports or other submission to UDPR if they affect property owned or managed by UDPR. Upon request by EPA, each Respondent shall submit such documents in electronic form.

42. Each Respondent shall be given not less than thirty (30) days to review and comment upon the other Respondent's draft EE/CA report prior to EPA approval of that document. EPA will consider each Respondent's comments and provide a written response to such comments. Each Respondent's comments and EPA's comments shall be placed in the administrative record for the Site.

**X. NATURAL RESOURCE INJURY ASSESSMENT AND RESTORATION  
ALTERNATIVES ANALYSES TO BE PERFORMED**

43. UPCM shall prepare a Natural Resource Injury Assessment and Restoration Alternatives Analysis for OU3 in accordance with the NRDA Scope of Work attached hereto as Appendix G concurrently with its development of the OU3 EE/CA and in coordination with the Natural

Resource Trustees. Park City shall prepare a Natural Resource Injury Assessment and Restoration Alternatives Analysis for OU4 in accordance with the NRDA Scope of Work attached hereto as Appendix H concurrently with its development of the OU3 EE/CA and in coordination with the Natural Resource Trustees. UPCM shall collect data in coordination with the Natural Resource Trustees to determine and quantify any actual or potential natural resource injuries at OU3. Park City shall collect data as in coordination with the Natural Resource Trustees to determine and quantify any actual or potential natural resource injuries at or related to OU4. As provided in the NRDA Scopes of Work attached hereto as Appendices G and H, these data collection activities shall be coordinated or integrated with data collection activities conducted by each Respondent in preparing its respective EE/CA to the extent practicable. Upon issuance of the final EE/CA Report for its respective OU, and in accordance with the provisions of 43 C.F.R Part 11, each Respondent shall, in coordination with the Natural Resource Trustees, identify potential restoration projects that can be coordinated with the preferred Removal Action alternative identified for its respective OU. Such projects shall be evaluated for their capability to restore, rehabilitate, replace and/or acquire, identified actual or potential injured natural resources and the services those resources provide to baseline conditions. Restoration alternatives must be consistent with NRDA restoration under CERCLA and must be analyzed under the National Environmental Policy Act consistent with the procedures outlined in Appendices G and H. Neither UPCM nor Park City shall be responsible, however, for preparing environmental assessments, environmental impact statements, or other documents that may be required by NEPA.

## **XI. PERFORMANCE OF REMOVAL**

44. UPCM shall implement the Action Memorandum for OU3 and perform all actions necessary for the performance of the Removal Action for OU3. Park City shall implement the Action Memorandum for OU4 and perform all actions necessary for the performance of the Removal Action for OU4. The actions to be implemented will be identified in separate Removal Action Work Plans for each operable unit to be developed in accordance with this Settlement Agreement. EPA shall issue the Action Memorandums no sooner than sixty (60) days after approval of the final EE/CA reports for each OU.

### **45. Removal Action Work Plan and Implementation.**

a. Within ninety (90) days after EPA issues the Action Memorandum for OU3, UPCM shall submit to EPA for approval a draft Removal Action Work Plan for performance of OU3 Removal Action. The draft OU3 Removal Action Work Plan shall provide a description of and a phased schedule for the actions required to implement the OU3 Removal Action. Within ninety (90) days after EPA issues the Action Memorandum for OU4, Park City shall submit to EPA for approval a draft OU4 Removal Action Work Plan for performance of OU4 Removal Action. The draft Removal Action Work Plan shall provide a description of and an expeditious schedule for the actions required to implement the OU4 Removal Action.

b. EPA may, after a reasonable opportunity for substantial and meaningful involvement by UDEQ, approve, disapprove, require revisions to, or modify either of the draft Removal Action Work Plans in whole or in part. EPA approval of Work activities affecting the Silver Maple Claims is subject to BLM concurrence. If EPA requires revisions, the responsible Respondent shall submit a revised draft Removal Action Work Plan within thirty (30) days following receipt of EPA's notification of the required revisions. Such Respondent shall implement the Removal Action Work Plan as approved in writing by EPA in accordance with the schedule approved by EPA. Once approved, or approved with modifications, each Removal Action Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable against the responsible Respondent under this Settlement Agreement.

c. Neither Respondent shall commence any Work except in conformance with the terms of this Settlement Agreement. Neither Respondent shall commence implementation of the Removal Action Work Plan for which it is responsible until receiving written EPA approval pursuant to Paragraph 45(b).

46. Removal Health and Safety Plans. Within sixty (60) days after EPA issues the Action Memorandum for OU3, UPCM shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of the OU3 Removal Action. Within sixty (60) days after EPA issues the Action Memorandum for OU4, Park City shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of the OU4 Removal Action. Each plan shall be prepared in accordance with EPA's Standard Operating Safety Guide (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, each plan shall also include contingency planning. Each Respondent shall incorporate all changes to the respective plans recommended by EPA and shall implement the plans during the pendency of the Removal Actions.

47. Removal Quality Assurance and Sampling.

a. Each Respondent shall prepare a Quality Assurance Project Plan (QAPP) in accordance with "EPA Requirements for Quality Assurance Project Plans (QA/R-5)" (EPA/240/B-01/003, March 2001), and "EPA Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998).

b. All sampling and analyses performed pursuant to this Settlement Agreement shall conform to EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Each Respondent shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Each Respondent shall follow, as appropriate, "Quality Assurance/Quality Control Guidance for Removal Activities:

"Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures" (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC and sampling. Each Respondent shall only use laboratories that have a documented Quality System that complies with ANSI/ASQC E-4 1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995), and "EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, March 2001)," or equivalent documentation as determined by EPA. EPA may consider laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) as meeting the Quality System requirements.

c. Upon request by EPA, Respondents shall have such a laboratory analyze samples submitted by EPA for QA monitoring. Each Respondent shall provide to EPA the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

d. Upon request by EPA, Respondents shall allow EPA or its authorized representatives to take split and/or duplicate samples. Each Respondent shall notify EPA not less than thirty (30) days in advance of any sample collection activity, unless shorter notice is agreed to by EPA. EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall allow the subject Respondent to take split or duplicate samples of any samples it takes as part of its oversight of subject Respondent's implementation of the Work.

#### 48. Removal Reporting.

a. Each Respondent shall submit a quarterly written progress report to the Environmental Agencies and the other Respondent concerning its actions undertaken pursuant to this Settlement Agreement on every 15th day of January, April, July and October after the date of receipt of EPA's approval of its Removal Action Work Plan until termination of this Settlement Agreement, unless otherwise directed in writing by the EPA project coordinator. These reports shall describe all significant developments during the preceding reporting period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

b. Any Party who owns or controls property at OU3 or OU4 shall, at least thirty (30) days prior to the conveyance of any interest in real property at OU3 or OU4, give written notice to the transferee that the property is subject to this Settlement Agreement and written notice to the Environmental Agencies of the proposed conveyance, including the name and address of the transferee. Each Party who owns or controls property at OU3 or OU4 also agrees to require that its successors comply with this notice requirement and Sections XII (Site Access and Institutional Controls) and XIV (Access to Information).

49. Final Removal Report. Within thirty (30) days after completion of all Work required by UPCM under this Settlement Agreement, UPCM shall submit for EPA review and approval a final report summarizing its actions taken to comply with this Settlement Agreement. Within thirty (30) days after completion of all Work required by Park City under this Settlement Agreement, Park City shall submit for EPA review and approval a final report summarizing its actions taken to comply with this Settlement Agreement. The final reports shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final reports shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement Agreement, a listing of quantities and types of materials removed off-site or handled on-site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the Removal Action (e.g., manifests, invoices, bills, contracts, and permits). The final reports shall also include the following certification signed by a person who supervised or directed the preparation of that report:

"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

50. Each Respondent shall submit to the Environmental Agencies two (2) copies of all plans, reports or other submissions required by this Section XI and any approved work plan. Each Respondent shall also submit a copy of all such plans, reports or other submission to UDPR if they affect property owned or managed by UDPR. Upon request by EPA, each Respondent shall submit such documents in electronic form.

51. Off-Site Shipments.

a. If and when it becomes necessary to send Waste Material to an off-site location for disposal, each Respondent shall with respect to the Work for which it is responsible, prior to any off-site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA project coordinator. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed ten (10) cubic yards. Consistent with EPA's previous determination regarding the applicability of the off-site rule at the Site, neither the OUI Repository nor the new mine waste repository to be constructed pursuant to this Settlement Agreement shall be considered an off-site location for the purposes of this Paragraph.

i. The responsible Respondent shall include in the written notification the following information: 1) the name and location of the facility to which the Waste Material is to be shipped; 2) the type and quantity of the Waste Material to be shipped; 3) the expected schedule for the shipment of the Waste Material; and 4) the method of transportation. The responsible Respondent shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

ii. The identity of the receiving facility and state will be determined by the responsible Respondent following the award of the contract for the Removal Action. The responsible Respondent shall provide the information required by Paragraph 51 (a) and (b) as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, the responsible Respondent shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Each Respondent shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

## 52. New Mine Waste Repository

a. The Parties anticipate that as part of the OU3 Removal Action a new mine waste repository will be constructed on property owned or acquired by Park City on or within close proximity of the Site. Within sixty (60) days after the Effective Date, Park City shall identify potential repository locations. Potential repository locations will be identified using screening criteria set forth in the BLM guidance document *Abandoned Mine Waste Repositories: Site Selection, Design and Cost (Technical note 410.BLM/ST/ST-02/002+3596)* including (i) located outside the 100-year floodplain; (ii) located outside of wetlands; (iii) have gentle topography; (iv) be of sufficient size; (v) have soils of gravelly clay/clayey gravels of low permeability and of reasonably high strength for slope stability; (vi) have a depth to ground water no shallower than fifteen (15) feet; and (vii) be consistent with seismic location restrictions set forth in Utah Admin. Code R315-8-2.9 (a) and R315-302-1. EPA shall determine which potential locations will be subject to further evaluation as part of the OU3 EE/CA. If the potential locations are unacceptable to EPA, Park City shall identify other potential locations until an acceptable location is found.

b. ASARCO Settlement Funds will be used to construct the new repository. UPCM shall operate the repository to accomplish the goals of this Settlement Agreement subject to EPA oversight and this Settlement Agreement and in accordance with the Repository Operating Rules set forth in Appendix E attached hereto. As soon as practicable following approval of the OU3 Removal Action Work Plan for repository construction, Park City shall convey the repository property to UPCM free and clear of all liens, claims and encumbrances, conditions and

restrictions that could adversely affect or interfere with the intended use of the property. Conveyance of the property to UPCM shall be at no cost, exaction or expense to UPCM. If for any reason the new repository is not constructed on property so transferred, the property shall be transferred back to Park City.

c. UPCM shall be responsible for post removal site control of the new repository upon completion of the OU3 Removal Action. Notwithstanding Paragraph 108, any other future liability with regard to releases or the threat of releases of hazardous substances from the new repository shall be shared by Respondents in proportion to the material in the repository as follows: (i) UPCM shall be responsible for all CERCLA Waste removed from OU3 by UPCM and not removed from property owned by Park City as of the Effective Date and (ii) Park City shall be responsible for all CERCLA Waste disposed of at the new repository removed from OU4, all CERCLA Waste removed from property owned by Park City as of the Effective Date within OU3, and all Development Waste disposed of at the new repository. If UPCM transfers the mine waste repository to an unaffiliated third party, UPCM shall prepare and file an environmental covenant consistent with Utah Code Ann. § 57-25-101 *et seq.* identifying Park City and the transferee as holders of the environmental covenant filed with respect to such property.

d. Park City shall be allowed to dispose of a total of 362,000 cubic yards of Development Waste in the new repository plus CERCLA Waste coming from OU4 and from property owned by Park City as of the Effective Date within OU3. Park City shall pay a Tipping Fee of \$10 per cubic yard for disposal of Development Waste and for disposal of CERCLA Waste originating from OU4 and from property owned by Park City as of the Effective Date within OU3. Tipping Fees for CERCLA Waste shall be paid by Park City directly to UPCM upon receipt of an invoice in accordance with Paragraph 81. Tipping Fees for Development Waste shall be paid by Park City into the OU4 Trust Fund at the time of disposal.

e. The OU4 Trust Fund will be created by Park City and administered by an independent trustee under a trust agreement approved by EPA after consultation with UPCM. Park City, UPCM and EPA shall be designated as beneficiaries of the OU4 Trust Fund. The trust funds shall be paid first to Park City in an amount not to exceed twenty percent (20%) of all response costs Park City incurs in accordance with this Settlement Agreement in implementing the EE/CA and Removal Action for OU4. Any excess trust funds will be paid to UPCM. Copies of all claims for payment by Park City against the OU4 Trust Fund shall be sent by Park City to UPCM at the same time such claims are submitted to the trustee. All such claims shall include invoices that include itemized support for the costs and expenses associated with the claim (e.g. equipment rental fees, fuel, consultants, laboratory costs, contractors, oversight, materials, labor costs, photographs, mapping, report preparation, and data gathering/management). Future Response Costs or Future Assessment Costs associated with OU4 billed to Park City shall be included in the invoices under this Paragraph. The creation of the OU4 Trust Fund and trust agreement provisions are in lieu of a cost sharing agreement between the Respondents with regard to OU4, and UPCM shall not have any financial obligations to Park City related to OU4.



## **XII. SITE ACCESS AND INSTITUTIONAL CONTROLS**

53. If any portion of the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by one of the Respondents, such Respondent shall, commencing on the Effective Date, provide the Environmental Agencies and their representatives, including contractors, with access at all reasonable times to such property, for the purpose of conducting any activity related to this Settlement Agreement. If any portion of the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by one of the Respondents and the other Respondent needs access to such property to implement Work, such Respondent shall, commencing on the Effective Date, provide the other Respondent and its representatives, including contractors, with access at all reasonable times to such property for the purpose of conducting any activity related to this Settlement Agreement.

54. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than a Respondent, the Respondent responsible for Work on such property shall use its best efforts to obtain all necessary access agreements within thirty (30) days after such Respondent becomes aware that such access is needed, or as otherwise specified in writing by the EPA project coordinator. Respondent shall notify EPA if after using its best efforts it is unable to obtain such agreements. Respondent shall describe in writing its efforts to obtain access. If Respondent cannot obtain access agreements, EPA may either (i) obtain access for Respondent or assist Respondent in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate; (ii) perform those tasks or activities with EPA contractors; or (iii) terminate the obligation under the Settlement Agreement that requires the access agreement in question. The responsible Respondent shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XVIII (Payment of Response Costs and Assessment Costs). If EPA performs those tasks or activities with EPA contractors, the responsible Respondent shall perform all other tasks or activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such tasks or activities. Respondent shall integrate the results of any such tasks or activities undertaken by EPA into its plans, reports and other deliverables.

55. BLM shall, with respect to the Silver Maple Claims, provide EPA, Respondents, and the State, and their representatives, contractors, and subcontractors, with access at all reasonable times to this property to conduct any activity related to this Settlement Agreement.

56. UDPR shall, with respect to any property at the Site that it owns or controls provide the Environmental Agencies and Respondents, and their representatives, contractors, and subcontractors, with access at all reasonable times to this property to conduct any activity related to this Settlement Agreement.

57. Notwithstanding any provision of this Settlement Agreement, EPA and UDEQ retain all of their access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

### **XIII. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS**

58. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Settlement Agreement, in a notice to the responsible Respondent, EPA shall, after a reasonable opportunity for review and comment by UDEQ: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that the responsible Respondent modify the submission; or (e) any combination of the above. Any disapproval or modification shall be consistent with the purposes of this Settlement Agreement set forth in Section III. However, EPA shall not modify a submission without first providing the responsible Respondent at least one notice of deficiency and an opportunity to cure within thirty (30) days, except where doing so would cause serious disruption to the Work, would delay an emergency response, or where previous submission(s) have been disapproved due to material defects. EPA approval of any Work on or affecting the Silver Maple Claims shall be subject to the concurrence of BLM.

59. In the event of approval, approval upon conditions, or modification by EPA, pursuant to subparagraph 58 (a), (b), (c) or (e), the responsible Respondent shall proceed to take any action required by the plan, report or other deliverable, as approved or modified by EPA subject only to its right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution) with respect to the modifications or conditions made by EPA. Following EPA approval or modification of a submission or portion thereof, such Respondent shall not thereafter alter or amend such submission or portion thereof unless directed by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to subparagraph 58(c) and the submission had a material defect, EPA retains the right to seek stipulated penalties, as provided in Section XXI (Stipulated Penalties).

60. **Resubmission.**

a. Upon receipt of a notice of disapproval, the responsible Respondent shall, within thirty (30) days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Any stipulated penalties applicable to the submission, as provided in Section XXI, shall accrue during the 30 day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 58 and 59.

b. Notwithstanding the receipt of a notice of disapproval, the responsible Respondent shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA. Implementation of any non-deficient portion of a submission shall

not relieve such Respondent of any liability for stipulated penalties under Section XXI (Stipulated Penalties).

c. EE/CA.

i. Neither Respondent shall proceed further with any subsequent Work for which it is responsible until receiving EPA approval, approval on condition or modification of the following deliverables: EE/CA Sampling and Analysis Plan, Draft Engineering Evaluation Report and Treatability Testing Work Plan and Draft Cost Analysis Report. While awaiting EPA approval, approval on condition or modification of these deliverables, each Respondent shall proceed with all other tasks and activities for which it is responsible which may be conducted independently of these deliverables, in accordance with the schedule set forth under this Settlement Agreement.

ii. For all remaining deliverables not listed above in subparagraph (c)(i), each Respondent shall proceed with all subsequent Work for which it is responsible including all tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop either Respondent from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the EE/CA or Removal Action

d. Removal Action. Designation of the Removal Action deliverables that require Respondents to halt any subsequent activities or tasks until receiving EPA approval, approval on condition or modification, shall be identified in the Removal Action Work Plans.

61. If EPA disapproves a resubmitted plan, report or other deliverable, or portion thereof, EPA may again direct the responsible Respondent to correct the deficiencies. EPA shall also retain the right to modify or develop the plan, report or other deliverable. The responsible Respondent shall implement any such plan, report, or deliverable as corrected, modified or developed by EPA, subject only to such Respondent's right to invoke the procedures set forth in Section XIX (Dispute Resolution).

62. If upon resubmission, a plan, report, or other deliverable is disapproved or modified by EPA due to a material defect, the responsible Respondent shall be deemed to have failed to submit such plan, report, or other deliverable timely and adequately unless such Respondent invokes the dispute resolution procedures in accordance with Section XIX (Dispute Resolution) and EPA's action is revoked or substantially modified pursuant to a dispute resolution decision issued by EPA or superseded by an agreement reached pursuant to that Section. The provisions of Section XIX (Dispute Resolution) and Section XXI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during dispute resolution. If EPA's disapproval or modification is not otherwise revoked, substantially modified or superseded as a result of a decision or agreement reached pursuant to the dispute resolution process set forth in Section XIX, stipulated penalties shall accrue for such violation

from the date on which the initial submission was originally required, as provided in Section XXI.

63. In the event that EPA takes over some of the Work, but not the preparation of the EE Report or the CA Report, the responsible Respondent shall incorporate and integrate information supplied by EPA into the final reports.

64. All plans, reports, and other deliverables submitted to EPA under this Settlement Agreement shall, upon approval or modification by EPA, be incorporated into and enforceable under this Settlement Agreement. In the event EPA approves or modifies a portion of a plan, report, or other deliverable submitted to EPA under this Settlement Agreement, the approved or modified portion shall be incorporated into and enforceable under this Settlement Agreement. Attached hereto as Appendix L is a list of the major deliverables under this Settlement Agreement.

65. Neither failure of EPA to expressly approve or disapprove of a Respondent's submission within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Regardless of whether EPA gives express approval for a Respondent's deliverables, each Respondent is responsible for preparing deliverables acceptable to EPA.

#### **XIV. ACCESS TO INFORMATION**

66. Upon request, each Respondent shall provide to the Environmental Agencies copies of all documents and information within its possession or control or that of its contractors or agents relating to activities at OU3 or OU4, the Work, or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Each Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work. With the exception of confidential or privileged information described in paragraphs 67 and 68, below, EPA shall make all such information, upon request, available to the Parties.

67. Each Respondent may assert business confidentiality claims covering part or all of the documents or information submitted to the Environmental Agencies under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified such Respondent that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to submitting Respondent. Each Respondent may assert business confidentiality claims covering

part or all of the documents or information submitted to the State under this Settlement Agreement to the extent permitted by and in accordance with Utah Government Records Access and Management Act, Utah Code § 63G-2-309, and where applicable, the Utah Environmental Quality Code, Utah Code § 19-1-306. Any Respondent who provides the State a record that the Respondent believes should be protected must submit with the record a written claim of business confidentiality and a concise statement of reasons supporting the claim, or the public may be given access to such records without further notice to submitting Respondent. Respondents shall segregate and clearly identify all documents or information submitted under this Settlement Agreement for which Respondents assert business confidentiality claims.

68. Each Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by applicable law. If a Respondent asserts such a privilege in lieu of providing documents, it shall provide the Environmental Agencies with the following: (i) the title of the document, record, or information; (ii) the date of the document, record, or information; (iii) the name and title of the author of the document, record, or information; (iv) the name and title of each addressee and recipient; (v) a general description of the contents of the document, record, or information; and (vi) the privilege asserted by such Respondent.

69. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around OU3 or OU 4. However, Respondents agree not to use such data, documents or information in ways explicitly prohibited in this Settlement Agreement.

70. In entering into this Settlement Agreement, each Respondent waives any objections to any data gathered, generated, or evaluated by the Environmental Agencies in the performance or oversight of the Work that has been verified according to the quality assurance/quality control (QA/QC) procedures required by the Settlement Agreement or any EPA-approved work plans or sampling and analysis plans. If either Respondent objects to any other data, such Respondent shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within fifteen (15) days of the quarterly progress report containing the data.

71. Except as provided in Paragraphs 67 and 68 (and in this Paragraph 71) all data, information, reports and other materials generated as part of the Work required by this Settlement Agreement (Information) shall be publicly available. However, Information subject to an attorney work product privilege, attorney client communications, and internal working drafts, memoranda, and reports shall not be publicly available, but shall be subject to the restrictions of this Paragraph except to the extent such disclosure is actually required by a non-waiveable provision of applicable law (including a requirement of Park City to provide access to public records under the Utah Governmental Records Access and Management Act, Utah Code, Title

63G Chapter 2). Respondents may convey public Information to any person or entity in the format in which it was presented as part of the Work. Respondents shall not re-characterize any of the Information and shall not use any of the Information to attribute liability or responsibility for contamination. Respondents shall not use the Information in any Proceeding against the other Respondent. Respondents may use the Information to directly communicate with the Environmental Agencies for the purpose of discussing the Work.

## **XV. RECORD RETENTION**

72. During the pendency of this Settlement Agreement and for a minimum of ten (10) years after each Respondent's receipt of EPA's notification pursuant to Section XXXII (Notice of Completion of Work), each Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to OU3 or OU4, regardless of any corporate retention policy to the contrary. Until ten (10) years after each Respondent's receipt of EPA's notification pursuant to Section XXXII (Notice of Completion of Work), each Respondent shall also instruct its contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

73. At the conclusion of this document retention period, each Respondent shall notify EPA and UDEQ at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by EPA or UDEQ, such Respondent shall deliver any such records or documents to EPA or UDEQ. Each Respondent may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If a Respondent asserts such a privilege, it shall provide EPA or UDEQ with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a general description of the subject of the document, record, or information; and 6) the privilege asserted by such Respondent.

74. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding OU3 or OU4 since notification of potential liability by EPA or the State and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

## **XVI. COMPLIANCE WITH OTHER LAWS**

75. Each Respondent shall perform all actions required pursuant to this Settlement Agreement in accordance with all applicable state and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Settlement Agreement shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws. Each Respondent shall identify ARARs, subject to EPA approval, as part of the respective EE/CAs. As provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), no permit shall be required for any portion of the Work conducted entirely on-site, including without limitation any Utah Pollution Discharge Elimination System Permit or National Pollution Discharge Elimination System Permit for the Prospector Drain until EPA issues notice of completion of the Work in accordance with Section XXXII (Notice of Completion of Work).

## **XVII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES**

76. In the event of any action or occurrence resulting from performance of Work which causes or threatens a release of Waste Material from OU3 or OU4 that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, the Respondent performing the Work shall immediately take all appropriate action. The Respondent performing the Work shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. The Respondent performing the Work shall also immediately notify the EPA project coordinator or, in the event of his/her unavailability, an on scene coordinator (OSC) or Laura Williams, Emergency Response Unit, EPA Region 8 Preparedness, Assessment and Emergency Response Program, at 303-312-6108, and the Region 8 Emergency Response Spill Report Hotline, at 1-800-227-8914 of the incident or conditions at OU3 or OU4. In the event that the Respondent performing the Work fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, such Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVIII (Payment of Response Costs and Assessment Costs).

77. In addition, in the event that a Respondent becomes aware of or should have been aware of any release of a hazardous substance from OU3 or OU4, such Respondent shall immediately notify the EPA project coordinator, an OSC or the Regional Duty Officer at Region 8 Emergency Response Spill Report Hotline, at 1-800-227-8914 and the National Response Center at (800) 424-8802. Such Respondent(s) shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of,

reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

### **XVIII. PAYMENT OF RESPONSE COSTS AND ASSESSMENT COSTS**

#### **78. Payments of Future Response Costs.**

a. UPCM shall pay to EPA all Future Response Costs incurred by EPA not inconsistent with the NCP for OU3. Park City shall pay to EPA all Future Response Costs incurred by EPA not inconsistent with the NCP for OU4. On a periodic basis, EPA will send each Respondent a bill requiring payment that includes a Region 8 cost summary. Each Respondent shall make all payments within thirty (30) days following receipt of each bill requiring payment, except as otherwise provided in Paragraph 80 of this Settlement Agreement. Payment shall be made to EPA by Electronic Funds Transfer (EFT) in accordance with current EFT procedures to be provided to Respondents by EPA Region 8, and shall be accompanied by a statement identifying the name and address of the Respondent making payment, the Site name, the EPA Region and Site/Spill ID Number 08-94, and the EPA docket number for this action.

b. At the time of payment, each Respondent shall send notice that its payment has been made to:

Martha Walker  
Finance Program Manager  
Superfund Remedial Section, 8TMS-FMP  
US EPA, Region 8  
1595 Wynkoop Street  
Denver, Colorado 80202

and to:

Maureen O'Reilly  
Superfund Enforcement  
U.S. EPA Region 8  
8ENF-RC  
1595 Wynkoop Street  
Denver, CO 80202

and by email to [acctsreceivable.cinwd@epa.gov](mailto:acctsreceivable.cinwd@epa.gov), and to:

EPA Cincinnati Finance Office  
26 Martin Luther King Drive  
Cincinnati, Ohio 45268



c. The total amounts to be paid pursuant to subparagraph (a) above shall be deposited in the Richardson Flat Tailings Site Special Account within the EPA Hazardous Substance Superfund to be retained and used by EPA to conduct or finance response actions at or in connection with the Site or to be transferred by EPA to the EPA Hazardous Substance Superfund.

d. UPCM shall pay to BLM all Future Response Costs incurred by BLM not inconsistent with the NCP and related to Work for OU3 on or affecting the Silver Maple Claims. Park City shall pay to BLM all Future Response Costs incurred by BLM not inconsistent with the NCP and related to Work for OU4 on or affecting the Silver Maple Claims. On a periodic basis, BLM will send each Respondent a bill requiring payment that includes a cost summary. Each Respondent shall make all payments within 30 days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 80 of this Settlement Agreement. Payment shall be made to the Department of the Interior's (DOI) Central Hazardous Materials Fund (CHF) by automated clearing-house known as the Department of the Treasury's Automated Clearing House (ACH)/Remittance Express program as follows:

Receiver name:	Central Hazardous Materials Fund ALC 14010001
Receiver Tax ID Number:	53-0196949
Receiver address:	7401 West Mansfield Ave. Mailstop D-2777 Lakewood, CO 80235
Receiver bank:	Federal Reserve Bank New York, NY ABA # 051036706
Receiver ACH Account No.:	312024

Each Respondent shall send notification of its payment referencing the amount of its payment, the Site name, and the time period for which reimbursement of response costs is being provided to the following individuals:

Courtney Hoover  
Fund Manager  
Central Hazardous Materials Fund  
Department of the Interior  
1849 C Street, N.W., Mail Stop 2342  
Washington, D.C. 20240

Casey S. Padgett  
Assistant Solicitor  
Office of the Solicitor  
1849 C Street, N.W., Mail Stop 5530  
Washington, D.C. 20240

e. UPCM shall pay to the Natural Resource Trustees all Future Assessment Costs incurred by the Natural Resource Trustees for OU3. Park City shall pay to the Natural Resource Trustees all Future Assessment Costs incurred by the Natural Resource Trustees for OU4. On a periodic basis, the Federal Trustees and the State Natural Resource Trustee will each send each Respondent a bill requiring payment that includes a cost summary. Each Respondent shall make all payments within thirty (30) days following receipt of each bill requiring payment, except as otherwise provided in Paragraph 80 of this Settlement Agreement. Payment shall be made and notification of such payment shall be given in accordance with the instructions included with the bill.

79. If the responsible Respondent does not pay Future Response Costs or Future Assessment Costs within thirty (30) days following its receipt of a bill, such Respondent shall pay Interest on the unpaid balance of such Future Response Costs. The Interest on unpaid Future Response Costs or Future Assessment Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. If EPA, BLM or the Natural Resource Trustees receives a partial payment, Interest shall accrue on any unpaid balance. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available by virtue of such Respondent's failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XXI. The responsible Respondent shall make all payments required by this Paragraph in the manner described in Paragraph 78.

80. a. Either Respondent may contest payment of any Future Response Costs or Future Assessment Costs for which it is responsible under Paragraph 78 if it determines that EPA, BLM or the Natural Resource Trustees have made an accounting error or if it believes EPA or BLM incurred excess costs as a direct result of an EPA or BLM action that was inconsistent with the NCP. Such objection shall be made in writing within thirty (30) days following receipt of the bill and must be sent to the appropriate agency. Any such objection shall specifically identify the contested Future Response Costs or Future Assessment Costs and the basis for objection. In the event of an objection, such Respondent shall within the thirty (30) day period pay all uncontested Future Response Costs or Future Assessment Costs to the appropriate agency in the manner described in Paragraph 78.

b. The contesting Respondent shall, at the time of submitting its objection in writing in accordance with subparagraph (a) above, establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Utah and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs or Future Assessment Costs. Such Respondent shall send to the appropriate agency a copy of the transmittal letter and check

paying the uncontested Future Response Costs or Future Assessment Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, such Respondent shall initiate the dispute resolution procedures in Section XIX (Dispute Resolution). If the billing agency prevails in the dispute, within five (5) days of the resolution of the dispute, the responsible Respondent shall pay the sums due (with accrued interest) to the billing agency in the manner described in Paragraph 78. If such Respondent prevails concerning any aspect of the contested costs, such Respondent shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the billing agency in the manner described in Paragraph 78. Such Respondent shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XIX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding each Respondent's obligation to reimburse the Environmental Agencies for their Future Response Costs or Future Assessment Costs.

81. Cost Sharing Agreement for OU3

a. In addition to funding construction of the new repository pursuant to Paragraph 52, ASARCO Settlement Funds shall be used to fund OU3 Work in the amount of one million dollars (\$1,000,000).

b. Park City shall reimburse UPCM ten percent (10%) of all response costs incurred by UPCM in accordance with this Settlement Agreement in implementing the OU3 EE/CA and OU3 Removal Action plus any Tipping Fees for CERCLA Waste payable by Park City hereunder on a quarterly basis. Payments shall be due within thirty (30) days after Park City's receipt of quarterly invoices that include itemized support for the costs and expenses associated with the invoice (e.g. equipment rental fees, fuel, consultants, laboratory costs, contractors, oversight, materials labor costs, photographs, mapping, report preparation, and data gathering/management). Future Response Costs or Future Assessment Costs associated with OU3 billed to UPCM shall be included in the quarterly invoices under this Paragraph.

c. Each May 15<sup>th</sup> following the Effective Date, each Respondent shall provide the other with its cost estimate for performing the Work for which it is responsible during the succeeding twelve (12) month period (Annual Cost Estimate). The Annual Cost Estimate shall provide a breakdown of estimated costs and identify which Work will be self-performed and which work will be contracted to a third party. For any self-performed Work, each Respondent shall include the rates to be charged for such Work. Within thirty (30) days after either Respondent becomes aware that it may incur costs that deviate from its Annual Cost Estimate that may result in an increase in the annual expenditures of twenty percent (20%) or more, it shall notify the other Respondent and include the reason for the cost deviation.

d. Any disputes arising between the Respondents under this Paragraph 81 shall not be subject to the dispute resolution provisions of Section XIX (Dispute Resolution) or the stipulated penalties provisions of Section XXI.

### **XIX. DISPUTE RESOLUTION**

82. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes involving the Federal Environmental Agencies and a Respondent arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally. Disputes arising solely between the Respondents are not subject to this Section and shall be resolved between the Respondents in judicial proceedings or as otherwise agreed between the Respondents in writing at the time of the dispute.

83. a. If any Respondent objects to any EPA or BLM action taken or decision made with respect to that Respondent's obligations pursuant to this Settlement Agreement, including billings for Future Response Costs, it shall notify EPA and BLM in writing of its objection(s) within thirty (30) days following such action, unless the objection(s) has/have been resolved informally. The agency whose action is subject to dispute and the objecting Respondent shall have thirty (30) days following the agencies' receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations (Negotiation Period). The Negotiation Period may be extended at the sole discretion of the agency whose action is subject to dispute.

b. Any agreement reached between EPA, BLM and the objecting Respondent pursuant to this Section shall be in writing and shall, upon signature of the affected Parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the agency whose action is subject to dispute and the objecting Respondent are unable to reach an agreement within the Negotiation Period, an EPA management official at the Assistant Regional Administrator level or higher will issue a written decision on the dispute to Respondent. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. No obligations under this Settlement Agreement shall be suspended by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, the objecting Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

84. a. If any Respondent objects to any action taken or decision made with respect to that Respondent's obligations pursuant to this Settlement Agreement by the Natural Resource Trustees, including billings for Future Assessment Costs, it shall notify the Natural Resource Trustees in writing of its objection(s) within thirty (30) days following such action, unless the objection(s) has/have been resolved informally. The Natural Resource Trustees and the objecting Respondent shall have thirty (30) days following receipt of Respondent's written objection(s) to resolve the dispute through formal negotiations. The Negotiation Period may be extended at the sole discretion of the Natural Resource Trustees.

b. Any agreement reached between the Natural Resource Trustees and the objecting Respondent pursuant to this Section shall be in writing and shall, upon signature of the affected parties, be incorporated into and become an enforceable part of this Settlement Agreement.

c. If the Natural Resource Trustees and the objecting Respondent are unable to reach an agreement within the Negotiation Period with respect to disputes other than those pertaining to billings for Future Assessment Costs, the DOI Authorized Official will issue a written decision with the concurrence of the State Natural Resource Trustee on the dispute to Respondent. The DOI Authorized Official's decision shall be incorporated into and become an enforceable part of this Settlement Agreement.

d. If the Federal Trustees and the objecting Respondent are unable to reach an agreement within the Negotiation Period with respect to disputes pertaining to billings by the Federal Trustees for Future Assessment Costs, the DOI Authorized Official will issue a written decision on the dispute to Respondent. The DOI Authorized Official's decision shall be incorporated into and become an enforceable part of this Settlement Agreement.

e. If the State Natural Resource Trustee and the objecting Respondent are unable to reach an agreement within the Negotiation Period on any dispute pertaining to billings by the State Natural Resource Trustee for Future Assessment Costs, the State Natural Resource Trustee will issue a written decision on the dispute to Respondent. The State Natural Resource Trustee's decision shall be incorporated into and become an enforceable part of this Settlement Agreement.

f. No obligations under this Settlement Agreement shall be suspended by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, the objecting Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with the written decision, whichever occurs

85. The dispute resolution process set forth in Paragraph 86 below pertains to all disputes between EPA and BLM regarding all EE/CA and Removal Action activities affecting the Silver Maple Claims portion of OU3.

86. EPA and BLM will cooperate to the fullest extent possible to: (i) ensure that EE/CA activities on or affecting the Silver Maple Claims are performed and that Removal Actions on or affecting Silver Maple Claims are fully and completely implemented; and, (ii) maximize the use of the resources available for the successful completion of operation and maintenance activities. In the event of a disagreement between EPA and BLM, these agencies agree to attempt to negotiate a mutually acceptable resolution of the issues to the fullest extent possible, as specified by the following provisions:

a. EPA and BLM have coordinated their respective CERCLA response authorities at the Silver Maple Claims portion of the Site. EPA plans to issue the Action Memorandum for OU3

and OU4 under CERCLA authorities with the concurrence of BLM. If a dispute between EPA and BLM arises concerning any matter addressed under this Settlement Agreement, and the dispute cannot be resolved at the project manager/staff attorney level, the disputing party shall identify the dispute to the other party in writing. EPA and BLM shall have fourteen (14) days to resolve the dispute informally if possible.

b. At the end of the fourteen (14) day informal dispute period, if the dispute is not resolved, the disputing party shall again state the dispute in writing in a letter addressed to the BLM District Manager, and the Deputy Assistant Regional Administrator for Office of Enforcement, Compliance, and Environmental Justice (EPA Deputy ARA), EPA Region 8. The other party shall have seven (7) days to respond to this dispute letter. The BLM District Manager and the EPA Deputy ARA shall then have fourteen (14) days to resolve the dispute.

c. If, at the end of this fourteen (14) day period, the dispute cannot be resolved, all dispute letters and responses shall be forwarded to the Assistant Regional Administrator for Office of Enforcement, Compliance, and Environmental Justice (EPA ARA), EPA Region 8, and the BLM State Director. The EPA ARA and BLM State Director shall consult concerning the dispute and shall attempt to issue a joint decision regarding the issue within fourteen (14) days of receipt of the dispute letters. In the event the EPA ARA and BLM State Director are unable to issue a joint determination, the EPA ARA will issue a decision. The EPA ARA shall consider the BLM position in this matter in light of the BLM's responsibilities and authorities as the federal land management agency responsible for the management and stewardship of the Silver Maple Claims and the BLM's CERCLA response action authorities with regard to the Silver Maple Claims.

d. If unsatisfied with the decision of the EPA ARA, the BLM may initiate consultation with the responsible Assistant Section Chief, Environmental Enforcement Section, US Department of Justice, regarding the EPA ARA decision. The EPA ARA will participate in that consultation process and consider the results of that consultation before making a final decision that will represent the final remedial action decision. Any final decision reached pursuant to this Paragraph 86 shall not be subject to judicial review by any Party, including EPA and BLM. The time periods listed herein may be increased or decreased by mutual agreement of EPA and BLM.

## **XX. FORCE MAJEURE**

87. Each Respondent agrees to perform all Work for which it is responsible within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, a *force majeure* is defined as any event arising from causes beyond the control of the responsible Respondent, or of any entity controlled by the responsible Respondent, including but not limited to its contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite the responsible Respondent's best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

88. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, the responsible Respondent shall notify EPA verbally within forty-eight (48) hours following of the time when such Respondent first knew that the event might cause a delay. Within five (5) days thereafter, the responsible Respondent shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a *force majeure* event if it intends to assert such a claim; and a statement as to whether, in the opinion of the responsible Respondent, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude the responsible Respondent from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

89. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify the responsible Respondent in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify the responsible Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

## **XXI. STIPULATED PENALTIES**

90. Each Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 91 and 92 for its failure to comply with the requirements of this Settlement Agreement specified below, unless excused under Paragraph 101 (Penalty Exception) or Section XX (*Force Majeure*). "Compliance" by a Respondent shall include completion of the Work for which it is responsible in accordance with all applicable requirements of law, this Settlement Agreement, the applicable EE/CA Work Plan, the applicable Removal Action Work Plan, and any plans or other documents approved by EPA pursuant to this Settlement Agreement, and within the specified time schedules established by and approved under this Settlement Agreement.

91. Stipulated Penalty Amounts.

a. The following stipulated penalties shall accrue per day against the responsible Respondent for failure to submit or timely submit any of the following: OU4 EE/CA Work Plan, the EE Reports, the CA Reports, the Removal Action Work Plans or the final removal reports:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 250	1st through 14th day
\$ 1,000	15th through 30th day
\$ 37,500	31st day and beyond

b. The following stipulated penalties shall accrue per day against the responsible Respondent for failure to submit timely or adequate reports pursuant to the EE/CA Work Plans or the Removal Action Work Plans, where an extension for the report has not been granted in writing prior to the due date by the EPA project coordinator:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 100	1 <sup>st</sup> through 14 <sup>th</sup> day
\$ 700	15 <sup>th</sup> through 30 <sup>th</sup> day
\$ 5,000	31 <sup>st</sup> day and beyond

c. The following stipulated penalties shall accrue per day against the responsible Respondent for failure to meet any other requirement of this Settlement Agreement or to submit timely or adequate quarterly progress reports:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 100	1 <sup>st</sup> through 14 <sup>th</sup> day
\$ 500	15 <sup>th</sup> through 30 <sup>th</sup> day
\$ 2,000	31 <sup>st</sup> day and beyond

92. In the event that EPA assumes performance of a portion or all of the Work required of a Respondent during performance of the EE/CA, pursuant to Paragraph 105 (Work Takeover) of Section XXIII (Reservation of Rights by Environmental Agencies), that Respondent shall be liable for a stipulated penalty in the amount of \$50,000. In the event that EPA assumes performance of a portion or all of the Work assumed by a Respondent during performance of the Removal Action, pursuant to Paragraph 105 (Work Takeover) of Section XXIII (Reservation of Rights by Environmental Agencies), that Respondent shall be liable for a stipulated penalty in the amount of \$100,000.

93. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (i)



with respect to a deficient submission under Sections IX or XI (EE/CA Work to be Performed, Performance of Removal), during the period, if any, beginning on the 31<sup>st</sup> day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and (ii) with respect to a decision by the EPA Management Official designated in Paragraph 83 of Section XIX (Dispute Resolution), during the period, if any, beginning on the 21<sup>st</sup> day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

94. Following EPA's determination that a Respondent has failed to comply with a requirement of this Settlement Agreement, EPA may give such Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

95. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) days following the responsible Respondent's receipt from EPA of a demand for payment of the penalties, unless such Respondent invokes the dispute resolution procedures in accordance with Section XIX (Dispute Resolution). All payments to EPA under this Section shall indicate that the payment is for stipulated penalties; shall reference the EPA Region, the Site/Spill ID Number 08-94, the EPA Docket Number for this Settlement Agreement, the name and address of the party making payment; shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund"; and shall be mailed to:

Regular mail:

Mellon Bank  
EPA Region 8  
Attn: Superfund Accounting  
Post Office Box 360859  
Pittsburgh, Pennsylvania 15251-6859

Express Mail:

Mellon Bank  
3 Mellon Bank Center  
ROOM#153-2713  
Pittsburgh, Pennsylvania 15259

or other such address as EPA may designate in writing, or by wire transfer to:

ABA=021030004  
TREAS NYC/CTR/

BNF=/AC-68011008

Wire transfers must be sent to the Federal Reserve Bank in New York.

Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s) shall be sent to:

Martha Walker  
Finance Program Manager, TMS-FMP  
US EPA, Region 8  
1595 Wynkoop Street  
Denver, Colorado 80202

and to:

Maureen O'Reilly  
Superfund Enforcement, ENF-RC  
U.S. EPA Region 8  
8ENF-RC  
1595 Wynkoop Street  
Denver, CO 80202

96 At the time of payment, the subject Respondent shall send notice that payment has been made by email to [acctsreceivable.cinwd@epa.gov](mailto:acctsreceivable.cinwd@epa.gov), and to:

EPA Cincinnati Finance Office  
26 Martin Luther King Drive  
Cincinnati, Ohio 45268

97. The payment of penalties shall not alter in any way either Respondent's obligation to complete performance of the Work required under this Settlement Agreement

98. Subject to Paragraph 101, penalties shall continue to accrue as provided in Paragraph 83 during any dispute resolution period, but need not be paid until fifteen (15) days after the dispute is resolved by agreement or by receipt of EPA's decision.

99. If a Respondent fails to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Such Respondent shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 95.

100. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of either Respondent's violation of this Settlement Agreement or of the statutes and regulations

upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of willful violation of this Settlement Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XXIII (Reservation of Rights by Environmental Agencies), Paragraph 105(Work Takeover). Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

101. **Penalty Exception.** Penalties shall apply, as set forth in this Section, in all circumstances related to the EE/CAs and the Removal Actions with the following specific exception. Within thirty (30) days following EPA's issuance of an Action Memorandum and notwithstanding any other provision contained in this Settlement Agreement, a Respondent may decide not to implement the Removal Action for which it is responsible. Notwithstanding the foregoing, this Settlement Agreement shall remain in full force and effect. In the event a Respondent decides not to implement the Removal Action for which it is responsible, EPA may choose, in its sole discretion, to amend the Action Memorandum and each Respondent shall have thirty (30) days following EPA's amendment to decide whether to implement the Removal Action for which it is responsible as set forth in the amended Action Memorandum. Alternatively, EPA may (i) bring a claim in federal district court to obtain an injunction for performance of the Removal Action against the responsible Respondent pursuant to this Settlement Agreement; (ii) issue a unilateral administrative order pursuant to Section 106(a) of CERCLA, 42 U.S.C. §9601(a), against the responsible Respondent and seek judicial enforcement; or (iii) perform the Removal Action and seek cost recovery against the responsible Respondent. The Respondent that decides not to implement the Removal Action for which it is responsible pursuant to this Paragraph 101 shall not be subject to stipulated penalties or statutory penalties for non-performance of the Removal Action unless and until the federal district court issues a final non-appealable order enforcing EPA's injunctive claim or the unilateral administrative order, or directing the Respondent to pay the response costs of the Removal Action. Any stipulated or statutory penalties assessed following resolution by the federal district court under this Paragraph shall not be retroactive, but may be assessed to address future or continuing failures to comply with the requirements of this Settlement Agreement as specified in Section XXI.

## **XXII. COVENANT NOT TO SUE BY ENVIRONMENTAL AGENCIES**

### **102. a Federal Environmental Agencies**

1. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA and BLM covenant not to sue or to take administrative action against either Respondent pursuant to Sections 106 and 107(a) of

CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon, as to each individual Respondent, that Respondent's complete and satisfactory performance of all of its obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XVIII. This covenant not to sue extends only to the qualifying Respondent and does not extend to any other person.

2. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, the Federal Trustees covenant not to sue or to take administrative action against either Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Natural Resource Injury Assessment and Restoration Alternatives Analysis and Future Assessment Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon, as to each individual Respondent, that Respondent's complete and satisfactory performance of all of its obligations under this Settlement Agreement, including, but not limited to, payment of Future Assessment Costs pursuant to Section XVIII. This covenant not to sue extends only to the qualifying Respondent and does not extend to any other person

3. EPA, BLM and FWS covenant not to sue or to take administrative action against UDPR pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work, the Natural Resource Injury Assessment and Restoration Alternatives Analysis, Future Response Costs, and Future Assessment Costs.

b. State Natural Resource Trustee

1. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, the State Natural Resource Trustee covenants not to sue or to take administrative action against either Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Natural Resource Injury Assessment and Restoration Alternatives Analysis and Future Assessment Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon, as to each individual Respondent, that Respondent's complete and satisfactory performance of all of its obligations under this Settlement Agreement, including, but not limited to, payment of Future Assessment Costs pursuant to Section XVIII. This covenant not to sue extends only to the qualifying Respondent and does not extend to any other person.

### **XXIII. RESERVATIONS OF RIGHTS BY ENVIRONMENTAL AGENCIES**

103. Except as specifically provided in this Settlement Agreement, nothing in this Settlement Agreement shall limit the power and authority of the Environmental Agencies or the United

States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement Agreement shall prevent the Environmental Agencies from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring either Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

104. The covenant not to sue set forth in Section XXII above does not pertain to any matters other than those expressly identified therein. The Environmental Agencies reserve, and this Settlement Agreement is without prejudice to, all rights against either Respondent with respect to all other matters, including, but not limited to:

- a. claims based on a failure by either Respondent to meet a requirement of this Settlement Agreement;
- b. liability for costs not included within the definition of Future Response Costs or Future Assessment Costs;
- c. liability for response costs incurred by but not reimbursed to the State;
- d. liability for performance of response actions other than the Work;
- e. criminal liability;
- f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments, excluding performance of the Natural Resource Injury Assessment and Restoration Alternatives Analyses and Future Assessment Costs paid to the Natural Resource Trustees pursuant to this Settlement Agreement;
- g. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of OU3 or OU4;
- h. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site; and
- i. claims based upon a failure to implement the Removal Actions subsequent to a period of thirty (30) days after EPA's issuance of the Action Memorandum for OU3 or the Action Memorandum for OU4 except as provided in Paragraph 101 (Penalty Exception).

105. Work Takeover. In the event EPA determines that a Respondent has ceased implementation of any portion of the Work for which it is responsible, is seriously or repeatedly

deficient or late in its performance of the Work, or is implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary (Work Takeover). EPA shall issue a written notice (Work Takeover Notice) to the responsible Respondent before a Work Takeover. Any Work Takeover Notice will specify the grounds upon which such notice was issued and will provide the responsible Respondent a period of ten (10) days within which to remedy the circumstances. If, after expiration of the 10-day notice period, the responsible Respondent has not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the Work Takeover Notice, EPA may at any time thereafter assume performance of all or any portion of the Work as EPA determines necessary. EPA shall notify the responsible Respondent of a Work Takeover in writing. In the event, however, where an emergency situation or immediate threat to public health or welfare or the environment exists, EPA will not issue a Work Takeover Notice and may at any time assume performance of all or any portion of the Work as EPA determines necessary. The responsible Respondent may invoke the procedures set forth in Section XIX (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by EPA or BLM in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that the Respondent responsible for performing such Work shall pay pursuant to Section XVIII (Payment of Response Costs and Assessment Costs). Notwithstanding any other provision of this Settlement Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

#### **XXIV. COVENANT NOT TO SUE BY RESPONDENTS**

106. a. Each Respondent covenants not to sue and agrees not to assert any claims or causes of action against the Environmental Agencies, UDPR or their contractors or employees, with respect to the Work, Future Response Costs, Future Assessment Costs or this Settlement Agreement, including, but not limited to:

i. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

ii. any claim arising out of response actions at or in connection with OU3 or OU4, including any claim under the United States Constitution, the Utah Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

iii. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work, Future Response Costs, or Future Assessment Costs.

b. The Respondents reserve, and this Settlement Agreement is without prejudice to either Respondent's right to challenge EPA's remedy selection in the event such Respondent elects not to implement the Removal Action for which it is responsible and EPA commences a judicial enforcement action.

107. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

108. As of the Effective Date of this Settlement Agreement, and regardless of whether the Respondents elect not to implement the Removal Action pursuant to Paragraph 101 (Penalty Exception), Respondents each waive all Claims (as defined below) they may have against each other or against the State of Utah, including UDPR, relating to the release, threatened release, use or presence of Waste Material at the Site or in the Upper Watershed (as defined in the figure attached hereto as Appendix F), including without limitation, any and all Claims related to the Judge Tunnel and/or Spiro Tunnel except to the extent either Respondent actually brings new Waste Materials to Judge Tunnel or Spiro Tunnel after the effective date of this Settlement Agreement. This waiver does not extend to new Waste Materials actually brought by either Respondent to the Site or Upper Watershed after the effective date of this Settlement Agreement.

For purposes of this Paragraph and Appendix I only, Respondents shall include affiliates, officers, directors, representatives, employees, predecessors, successors and assigns. This waiver of Claims applies to Proceedings, except as specified in Appendix I which identifies the sole enforcement options for environmental matters by Park City. Obligations and the right to enforce any rights or remedies under existing contracts and agreements between Respondents shall remain in effect, except for any such right, remedy or obligation that is within the scope of the waiver of Claims in this Paragraph. For purposes of this Paragraph 108 only, "Claim" shall mean all claims, liabilities, demands, orders, obligations, remediation requests, governmental requirements or directives, penalties, damages, losses, costs or causes of action, whether now existing or hereafter occurring.

## **XXV. OTHER CLAIMS**

109. By issuance of this Settlement Agreement, the Environmental Agencies assume no liability for injuries or damages to persons or property resulting from any acts or omissions of either Respondent. No Environmental Agency shall be deemed a party to any contract entered into by either Respondent or their respective directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement Agreement.

110. Except as expressly provided in Section XXII (Covenant Not to Sue by Federal Environmental Agencies) and Section XXIV (Covenant Not to Sue by Respondents), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against either Respondent or any person not a party to this Settlement Agreement, for any

liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607, or creates a cause of action on behalf of any person not a party to this Settlement Agreement.

111. No action or decision by EPA or any other Environmental Agency pursuant to this Settlement Agreement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

## **XVI. CONTRIBUTION**

112. a. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2), and that both Respondents and UDPR are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work, the Natural Resource Injury Assessment and Restoration Alternatives Analyses, Future Response Costs, and Future Assessment Costs.

b. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which both Respondents and UDPR, as of the Effective Date, resolved their liability to the Federal Environmental Agencies for the Work, the Natural Resource Injury Assessment and Restoration Alternatives Analyses, Future Response Costs, and to the Natural Resource Trustees for Future Assessment Costs paid by the Respondents to the Natural Resource Trustees.

c. Nothing in this Settlement Agreement precludes the Environmental Agencies or either Respondent from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not a party to this Settlement Agreement. Nothing in this Settlement Agreement diminishes the right of EPA, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

## **XXVII. INDEMNIFICATION**

113. Each Respondent shall indemnify, save and hold harmless the Environmental Agencies, UDPR, their officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of such Respondent, its officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, each Respondent agrees to pay the Environmental Agencies and UDPR all costs they incur, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or



on account of claims made against the Environmental Agencies based on negligent or other wrongful acts or omissions of such Respondent, its officers, directors, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Settlement Agreement. Neither the Environmental Agencies nor UDPR shall be held out as a party to any contract entered into by or on behalf of either Respondent in carrying out activities pursuant to this Settlement Agreement. Neither Respondent nor any of their contractors shall be considered an agent of any Environmental Agency or UDPR.

114. The appropriate Environmental Agency or UDPR shall give the appropriate Respondent notice of any claim for which it plans to seek indemnification pursuant to this Section and shall consult with such Respondent prior to settling such claim.

115. Each Respondent waives all claims against the Environmental Agencies and UDPR for damages or reimbursement or for set-off of any payments made or to be made to any Environmental Agency or UDPR arising from or on account of any contract, agreement, or arrangement between any one or both Respondents and any person for performance of Work on or relating to OU3 or OU4, including, but not limited to, claims on account of construction delays. In addition, each Respondent shall indemnify and hold harmless the Environmental Agencies and UDPR with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or both Respondents and any person for performance of Work on or relating to OU3 or OU4, including, but not limited to, claims on account of construction delays.

## **XXVIII. INSURANCE**

116. At least thirty (30) days prior to commencing any on-Site work under this Settlement Agreement, each Respondent shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of one million dollars, combined single limit, naming EPA and UDPR as an additional insured. Within the same time period, each Respondent shall provide EPA and UDPR with certificates of such insurance and a copy of each insurance policy. Each Respondent shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, each Respondent shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of each Respondent in furtherance of this Settlement Agreement. If either Respondent demonstrates by evidence satisfactory to EPA that any of its contractors or subcontractors maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then such Respondent need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

## **XXIX. FINANCIAL ASSURANCE**

117. a. Within sixty (60) days following the Effective Date, UPCM shall establish and maintain financial security for the benefit of EPA for the performance of the EE/CA for OU3 in the amount of \$100,000. Within sixty (60) days following the Effective Date, Park City shall establish and maintain financial security for the benefit of EPA in the amount of \$100,000 for the performance of the EE/CA for OU4.

b. EPA anticipates that the Removal Action for OU3 will be implemented in sequenced phases over a period of years with potentially significant periods of time between the first and last phase. Typically, each phase will be completed within a construction season but there may be instances where a phase will extend into the succeeding year. Financial assurance for the OU3 Removal Action shall be provided on a phased basis. Within sixty (60) days following EPA's issuance of the Action Memorandum for OU3, UPCM shall establish and maintain financial security for the benefit of EPA for the performance of the first sequenced phase of the Removal Action for OU3. Thereafter, UPCM shall establish and maintain financial security for the benefit of EPA for the performance of each subsequent phase of the Removal Action for OU3 prior to commencement of each such phase. The amount of financial security to be established and maintained by UPCM for each phase shall be based upon the cost of implementing the tasks set forth in the Removal Action Work Plans for such phase.

c. Within sixty (60) days following the Effective Date, Park City shall establish and maintain financial security for the benefit of EPA for the performance of the Removal Action for OU4. The amount of financial security to be established and maintained by Park City shall be based upon the cost of implementing the Removal Action Work Plan for OU4.

d. The financial security shall be in one or more of the following forms, in order to secure the full and final completion of Work by each Respondent (provided, however, UPCM may amend any of the letters of credit it previously provided to EPA as financial security under the Consent Decree for OU1 or the RI/FS AOC for OU2) :

- i. a surety bond unconditionally guaranteeing payment and/or performance of the Work;
- ii. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA; or
- iii. a trust fund administered by a trustee acceptable in all respects to EPA.

Each Respondent shall provide a copy of its financial security mechanism, and any accompanying transmittal letter(s) to:

Daniela Golden  
Financial Analyst, 8ENF-RC  
Superfund Technical Enforcement Program  
US EPA, Region 8  
1595 Wynkoop Street  
Denver, Colorado 80202

118. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion and follow: (i) the model draft letter of credit dated December 1, 2004, see <http://www.epa.gov/compliance/resources/policies/cleanup/suprefund/fa-credit-mod.pfd>; (ii) the model payment surety bond dated July 1, 2005, see <http://www.epa.gov/compliance/resources/policies/cleanup/suprefund/fa-surety-paybond-mod.pfd>; or (iii) the trust fund model dated September 1, 2006, see <http://www.epa.gov/compliance/resources/policies/cleanup/suprefund/fa-trust-mod.pfd>. If UPCM elects to amend its existing letter(s) of credit, it will provide EPA with a draft copy in advance for EPA's review and approval before issuance of the amended letter of credit. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, the subject Respondent shall, within sixty (60) days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 117, above. In addition, if at any time after issuance of the Action Memorandums, EPA notifies a Respondent that the anticipated cost of completing any Work for which it is responsible as set forth in Paragraph 117, is more than originally estimated, then, within sixty (60) days of such notification, such Respondent shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. A Respondent's inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

119. If, after the Effective Date, a Respondent can show that the estimated cost to complete the remaining Work for which it is responsible has diminished below the amount set forth in Paragraph 117 of this Section, such Respondent may, on any anniversary date of the Effective Date, reduce the amount of the financial security provided under this Section to the estimated cost of completing the remaining Work associated with such Work. Such Respondent shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, such Respondent may seek dispute resolution pursuant to Section XIX (Dispute Resolution). Such Respondent may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

120. Either Respondent may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of

a dispute, a Respondent may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

### **XXX. MODIFICATIONS**

121. The affected Parties may agree to modifications to any plan, schedule, work plan or statement of work in writing or verbally. Any verbal modification will be promptly memorialized in writing. Any requirements of this Settlement Agreement relating to the Work may be modified in writing by mutual agreement of the responsible Respondent and EPA. Any other requirements may be modified in writing by mutual agreement of the affected Parties.

122. If a Respondent seeks permission to deviate from any approved work plan or schedule, such Respondent's project coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Such Respondent may not proceed with the requested deviation until receiving oral or written approval from the EPA project coordinator pursuant to Paragraph 121.

123. No informal advice, guidance, suggestion, or comment by the EPA project coordinator or other representatives of the Environmental Agencies regarding reports, plans, specifications, schedules, or any other writing submitted by either Respondent shall relieve such Respondent of its obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

### **XXXI. UPPER WATERSHED ASSESSMENTS**

124. EPA shall perform one or more removal site evaluations in the Upper Watershed, depicted on the map in Appendix F to determine if all significant sources of contaminant loading to Silver Creek or East Canyon Creek have been addressed. EPA shall select the sites for evaluation in consultation with the Respondents. If EPA determines in its sole discretion that additional removal actions are necessary to protect public health or the environment, such actions including cost recovery will be addressed outside this Settlement Agreement.

### **XXXII. NOTICE OF COMPLETION OF WORK**

125. When EPA determines, after EPA's review of a final report, as specified in Paragraph 49 that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including post-removal site controls, payment of Future Response Costs, or record retention, EPA will provide written notice to the Respondent responsible for such Work. If EPA determines that any such Work has not been completed in accordance with this Settlement Agreement, EPA will notify the responsible Respondent, provide a list of the deficiencies, and require that Respondent modify the Removal Work Plan if appropriate in order to correct such deficiencies. The responsible Respondent shall implement the modified and approved Removal Work Plan and shall submit a

modified final report in accordance with the EPA notice. Failure by the responsible Respondent to implement the approved modified Work Plan shall be a violation of this Settlement Agreement.

### **XXXIII. ADMINISTRATIVE RECORD**

126. EPA will determine the contents of the administrative record files for selection of the Removal Actions. Each Respondent shall submit to EPA documents developed during the course of the EE/CAs upon which selection may be based. Upon request of EPA, each Respondent shall provide to EPA copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Upon request of EPA, each Respondent shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the Removal Actions, and all communications between such Respondent and state, local or other federal authorities concerning selection of the Removal Actions. A copy of the administrative record files for each Removal Action shall be maintained in the current information repository located at the Park City Library, 1255 Park Avenue, Park City, Utah.

### **XXXIV. INTEGRATION/APPENDICES/NOTICES**

127. This Settlement Agreement and its appendices constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement:

- Appendix A: Site Map
- Appendix B: Silver Maple Claims Map
- Appendix C: EE/CA Work Plan for OU3
- Appendix D: Statement of Work for OU4
- Appendix E: Repository Operating Rules
- Appendix F: Upper Watershed Map
- Appendix G: NRDA Scope of Work for OU3
- Appendix H: NRDA Scope of Work for OU4
- Appendix I: Exceptions to Waiver
- Appendix J: Screening Protocols
- Appendix K: Assessment Protocols
- Appendix L: Major Deliverables

Unless otherwise provided in this Settlement Agreement, when written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses set forth below, unless those individuals or their

successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided.

As to EPA:

Kathryn Hernandez  
Remedial Project Manager  
Superfund Remedial Section, 8EPR-RA  
US EPA, Region 8,  
1595 Wynkoop Street  
Denver, Colorado 80202  
Phone: (303) 312-6101  
Email: [hernandez.kathryn@epa.gov](mailto:hernandez.kathryn@epa.gov)

Andrea Madigan  
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1595 Wynkoop Street  
Denver, Colorado 80202  
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As to UDEQ:

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UDEQ Project Manager  
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Email: [mslam@utah.gov](mailto:mslam@utah.gov)

Sandra K. Allen  
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Salt Lake City, Utah 84114-4840  
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As to UDPR

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Email: [heathershilton@utah.gov](mailto:heathershilton@utah.gov)

As to the State Natural Resource Trustee

Brad T. Johnson  
State Natural Resource Trustee  
195 North 1950 West  
4<sup>th</sup> Floor  
P.O. Box 144810  
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For Richardson Flat OU3 & 4  
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Kent Sorenson  
State Trustee Technical Advisor  
For Richardson Flat OU3 & 4  
Habitat Restoration Biologist  
DWR-NRO  
515 East 5300 South  
Ogden, UT 84401

Phone: (801) 643-8342

Email: [kentsorenson@utah.gov](mailto:kentsorenson@utah.gov)

As to BLM or FWS:

Casey S. Padgett

Branch of Environmental Compliance and Response

Office of the Solicitor, Department of the Interior

1849 C Street, N.W., Mail Stop 5530

Washington, D.C. 20240

Phone: (202) 208-4125

Email: [casey.padgett@sol.doi.gov](mailto:casey.padgett@sol.doi.gov)

Dana Jacobsen

Office of the Solicitor, Department of the Interior

755 Parfet, Suite 151

Lakewood, CO 80215

Phone: (303) 231-5353, ext 336

Email: [dana.jacobsen@sol.doi.gov](mailto:dana.jacobsen@sol.doi.gov)

As to UPCM:

Kerry C. Gee

Vice President

United Park City Mines Co.

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Phone: (435) 333-6601

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Kevin Murray

Chapman & Cutler

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Salt Lake City, Utah 84111

Phone: (801) 320-6754

Email: [kmurray@chapman.com](mailto:kmurray@chapman.com)



As to Park City:

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445 Marsac Ave  
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Phone: (435) 615-5153  
Email: [joan.card@parkcity.org](mailto:joan.card@parkcity.org)

Polly Jessen  
Kaplan Kirsch & Rockwell LLP  
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Denver, CO 80202  
Phone: (303) 825-7000  
Email: [pjessenr@kaplankirsch.com](mailto:pjessenr@kaplankirsch.com)

#### **XXXV. EFFECTIVE DATE**

128. This Settlement Agreement shall be effective the day upon which it has been fully executed by all Parties.

The undersigned representatives certify that they are fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the Party they represent to this document.

Agreed this \_\_\_\_ day of \_\_\_\_\_, 2012.

For Respondent Park City:

By: \_\_\_\_\_ DATE: \_\_\_\_\_

Title: \_\_\_\_\_

The undersigned representatives certify that they are fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the Party they represent to this document.

Agreed this 7<sup>th</sup> day of May, 2012.

For Respondent UPCM:

By: \_\_\_\_\_

Title: Vice President

The undersigned representatives certify that they are fully authorized to enter into the terms and conditions of this Settlement Agreement and to bind the Party they represent to this document.

Agreed this \_\_\_\_ day of \_\_\_\_\_, 2012.

BY:

---

Title  
Utah Department of Environmental Quality

BY:

---

Title  
Utah Division of Parks and Recreation

BY:

---

Brad T Johnson  
State of Utah Natural Resource Trustee

It is so ORDERED AND AGREED this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

BY:

\_\_\_\_\_  
Bureau of Land Management  
Title

BY:

\_\_\_\_\_  
Fish and Wildlife Service  
Title

It is so ORDERED AND AGREED this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

BY:

\_\_\_\_\_  
Matthew Cohn, Director  
Legal Enforcement Program  
U.S. Environmental Protection Agency, Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129

DATE: \_\_\_\_\_

BY:

\_\_\_\_\_  
Kelcey Land, Director  
RCRA & CERCLA Technical Enforcement Program  
U.S. Environmental Protection Agency, Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129

DATE: \_\_\_\_\_

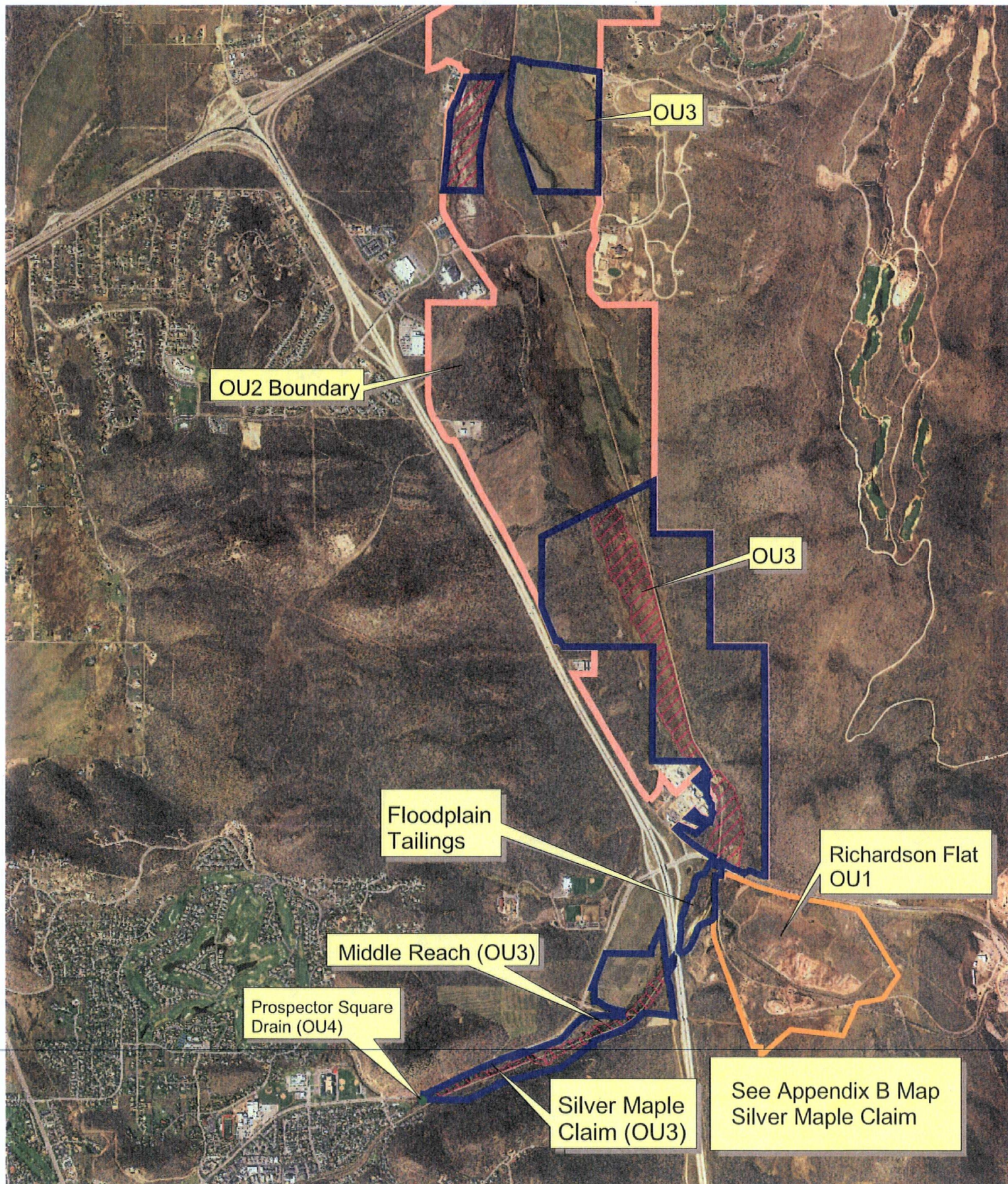
BY:

\_\_\_\_\_  
Bill Murray, Director  
Superfund Remedial Response Program  
U.S. Environmental Protection Agency, Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129

DATE: \_\_\_\_\_

EFFECTIVE DATE: \_\_\_\_\_





- Prospector Square Drain (OU4)
- LSC-MR (OU3) Boundary
- LSC Boundary (OU2)
- Richardson Flat (OU1) Study Area
- ▨ LSC OU3 Tailings
- ▨ Middle Reach OU3 Tailings

0 0.4 0.8 1.2 1.6 2 Miles

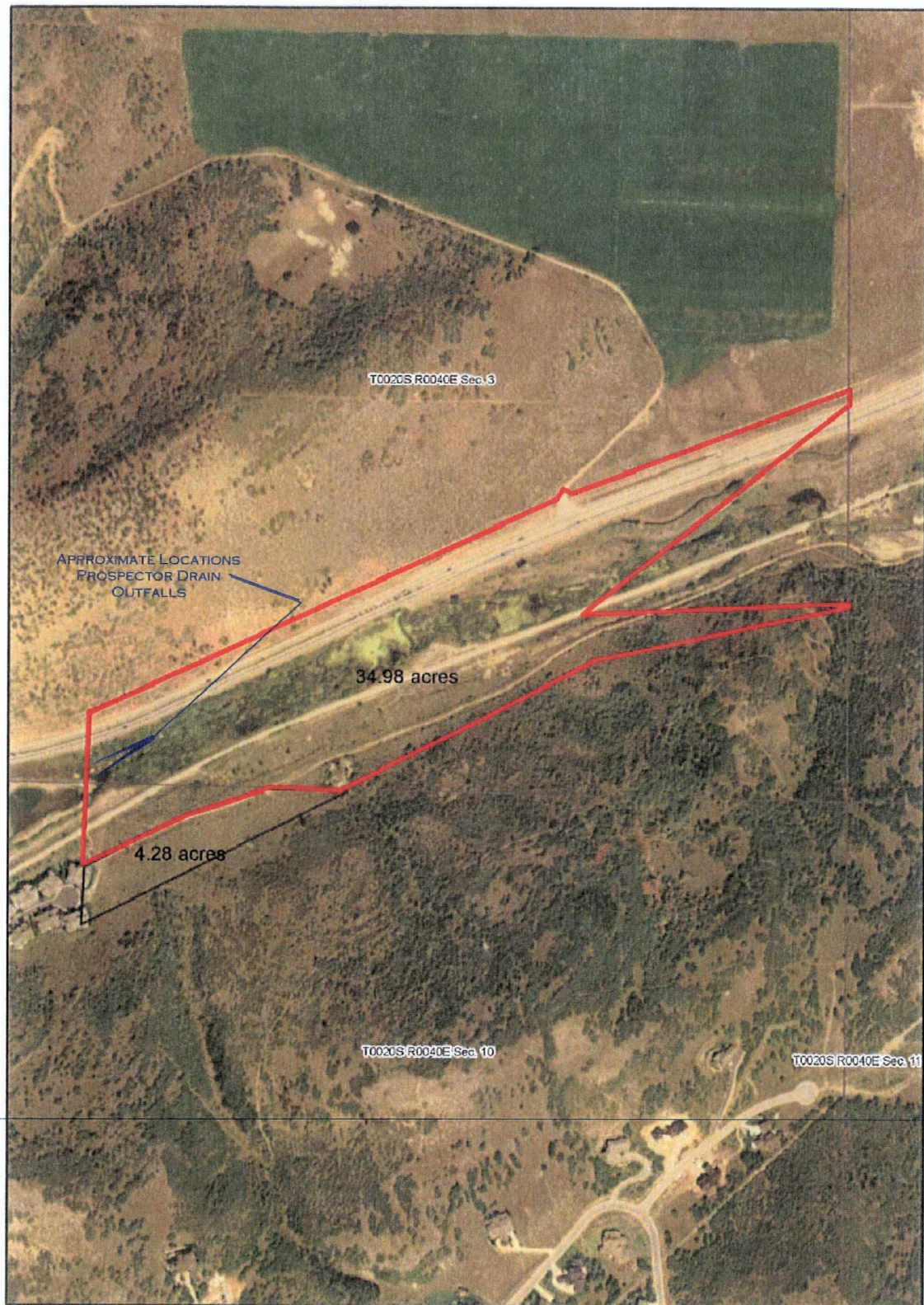
# Appendix A

Map Date  
02-24-2012





BLM Sliver Maple Parcel



SILVER MAPLE CLAIM  
APPENDIX B



## **APPENDIX C**

### **ENGINEERING EVALUATION/COST ANALYSIS WORK PLAN**

**Richardson Flat OU3  
Middle Reach  
Silver Creek  
Summit County, Utah**

**SITE ID: UT980952840**

**Prepared for:**

**United Park City Mines Company  
P.O. Box  
Park City, Utah 84060**

**Prepared by:**

**Resource Environmental Management Consultants, Inc.  
8138 South State Street, Ste. 2A  
Midvale, Utah 84047  
801-255-2626**

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	BACKGROUND .....	2
1.2	WORK PLAN ORGANIZATION.....	3
<b>2.0</b>	<b>PREVIOUS INVESTIGATIONS.....</b>	<b>4</b>
2.1	SUMMARY OF DATA GAPS.....	4
2.1.1	<i>Middle Reach</i> .....	4
2.1.2	<i>Floodplain Tailings Site Reach</i> .....	5
2.1.3	<i>State Route 248 North Reach</i> .....	6
2.1.4	<i>P. C. West Reach</i> .....	6
2.1.5	<i>P. C. East Reach</i> .....	7
<b>3.0</b>	<b>SITE CHARACTERIZATION .....</b>	<b>7</b>
3.1	PLANNING DOCUMENTS .....	7
3.1.1	<i>Sampling and Analysis Plan</i> .....	7
3.1.2	<i>Health and Safety Plan</i> .....	8
3.2	POTENTIALLY AFFECTED MEDIA .....	8
3.3	SITE INVESTIGATIONS.....	9
3.3.1	<i>Site Characterization Report</i> .....	9
3.4	MEDIA TO BE INVESTIGATED FOR THE EE/CA .....	10
3.4.1	<i>Soil</i> .....	10
3.4.2	<i>Sediments</i> .....	11
3.4.3	<i>Surface Water</i> .....	11
3.4.4	<i>Shallow Groundwater</i> .....	12
3.5	MEDIA TO BE INVESTIGATED FOR THE RAA .....	
<b>4.0</b>	<b>SUPPLEMENTAL RISK EVALUATION .....</b>	<b>12</b>
<b>5.0</b>	<b>ENGINEERING EVALUATION/COST ANALYSIS .....</b>	<b>14</b>
5.1	REMOVAL ACTION OBJECTIVES.....	15
<b>6.0</b>	<b>INJURY ASSESSMENT AND RESTORATION ALTERNATIVE ANALYSIS.....</b>	<b>15</b>
<b>7.0</b>	<b>PROPOSED EE/CA OUTLINE.....</b>	<b>16</b>
<b>8.0</b>	<b>SCHEDULE AND COMMUNITY INVOLVEMENT .....</b>	<b>16</b>
8.1	EE/CA SCHEDULE .....	17
8.2	COMMUNITY INVOLVEMENT.....	17
<b>9.0</b>	<b>REFERENCES .....</b>	<b>18</b>

## **TABLES**

Table 1-1	Previous Investigations (attached to this document)
Table 3-1	Site Screening Values (located within document)
Table 8-1	Schedule for EE/CA Deliverables and Activities (located within document)

## **FIGURES**

Figure 1-1	OU 3 Area Map
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## **ATTACHMENTS**

Attachment A	Summary of Previous Investigations
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## LIST OF ACRONYMS AND ABBREVIATIONS

ARAR	Applicable or Relevant and Appropriate Requirements
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DERR	State of Utah Department of Environmental Quality, Division of Environmental Response and Remediation
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EE/CA	Engineering Evaluation/ Cost Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FSP	Field Sampling Plan
FONSI	Finding of No Significant Impact
HASP	Health and Safety Plan
HEA	Habitat Equivalency Analysis
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
O&M	Operations and Maintenance
OU	Operable Unit
OU1	Richardson Flat Tailings Site Operable Unit 1
OU3	Richardson Flat Tailings Site Operable Unit 3
PRPs	Potentially Responsible Parties
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAA	Restoration Alternative Analysis
SAP	Sampling and Analysis Plan
Service	U.S. Fish and Wildlife Service
UDPR	State of Utah Division of Parks and Recreation
UPCM	United Park City Mines Company
USCWG	Upper Silver Creek Watershed Group
USC	United States Code
USGS	United States Geological Survey
VCP	State of Utah Voluntary Cleanup Program

## 1.0 INTRODUCTION

This Work Plan is part of and incorporated into the Administrative Settlement Agreement and Order on Consent for EE/CA Investigations and Removal Actions (Settlement Agreement) for the Richardson Flat Tailings Site in Park City, Utah. Unless otherwise expressly provided in this Work Plan, the terms used herein that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or such regulations. Whenever terms defined in the Settlement Agreement are used in this Work Plan, they shall have the same meaning assigned to them in the Settlement Agreement.

The purpose of this Engineering Evaluation/Cost Assessment (EE/CA) Work Plan is to outline the general requirements to complete an investigation and preparation of an EE/CA. The work will be conducted by United Park City Mines Company (UPCM) at Richardson Flat Tailings Site Operable Unit 3 (OU3). Appendix A to the Settlement Agreement presents an OU3 Site location map.

UPCM will conduct work activities at OU3 as described in this Work Plan, in coordination with the Environmental Protection Agency (EPA), and in accordance with procedures outlined by the updated *National Oil and Hazardous Substance Pollution Contingency Plan* (NCP) (40 C.F.R. Part 300) as well as the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) and amendments (42 U.S.C. § 9606(a)). This Work Plan follows the recommendations spelled out in the EPA's *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (EPA540-R-93-057) and tasks outlined in this Work Plan will be organized to follow the *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4), (EPA/240/B-06/001) and the EE/CA Approval Memorandum once it is submitted and approved. As used throughout this Work Plan, the term "removal" shall mean "the taking of such . . . actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment." 42 U.S.C. § 9601(23).

In accordance with the terms identified in Paragraph 52 of the Administrative Settlement Agreement and Order on Consent (Settlement Agreement), Park City is to present alternative waste repository sites, consistent with the siting criteria defined in the Settlement Agreement.

Once sites are determined by EPA to be suitable alternatives, UPCM will evaluate such sites for suitability as a waste repository. Development of a long term operation and maintenance plan for the repository will be part of the EE/CA.

The EE/CA will be prepared using extensive site characterization data previously collected by Tetra Tech (for the EPA), the United States Geological Survey, the Bureau of Land Management

(BLM), the Upper Silver Creek Watershed Stakeholders Group, the State of Utah, and other relevant data sources identified in the Work Plan. Data gaps referenced in Section 2.1, below, will be addressed during the investigation phase of the EE/CA.

This Work Plan also allows for general data collection activities to complete an Injury Assessment Restoration Alternatives Analysis (RAA) as part of coordinated EPA and Natural Resource Trustees activities at OU3. Any such data collection activities will be conducted in a manner similar to those efforts at Richardson Flat consistent with the *Scope of Work - United Park City Mines for Injury Assessment and Restoration Alternatives Analysis for the Richardson Flat Tailings Site* (Appendix G to the Settlement Agreement) and shall be designed to include baseline data on existing natural resources, determination and quantification of potential injury to federal and state natural resources and their supporting ecosystems and other data required to complete an Injury Assessment and RAA for OU3. UPCM will notify the Environmental Agencies at least thirty days in advance of any data collection activities. UPCM will notify UDPR at least thirty days in advance of any data collection activities on property owned or managed by UDPR.

It is anticipated that the EE/CA and any RAA data collection activities will be conducted simultaneously.

## **1.1 Background**

OU3 shall have the same meaning ascribed to it in the Settlement Agreement. OU3 is depicted generally on the map attached as Appendix A. For data collection purposes only, OU3 is comprised of five separate areas as presented on Figure 1-1:

- Middle Reach - The first area is commonly known as the Middle Reach of Silver Creek. This area encompasses the Silver Maple Claims from its upstream end at the Prospector Park downstream to Highway 40.
- Floodplain Tailings Site Reach (FPT Reach) – The second area extends from Highway 40 northward to State Route 248. A portion of this area is referred to as the “Floodplain Tailings” in the OU1 RI/FS (RMC, 2004a).
- State Route 248 North Reach – The third area extends from State Route 248 northward approximately 9,000 feet through the southerly one third of the Lower Silver Creek floodplain.
- P. C. West – The fourth area is located in the northern part of OU3 and is adjacent to the Snyderville Basin Water Reclamation Facility (sewage treatment facility) to the west.
- P. C. East - The fifth area is located in the northern part of OU3 to the north of Promontory Road and is adjacent to a residential development (Pivotal Promontory, LLC has constructed a private club and second-home community) on its easterly boundary.

The water in Silver Creek and the adjacent floodplain includes water from precipitation (primarily snowmelt), groundwater, springs, and urban runoff from within its basin. Silver Creek is the primary drainage within the watershed.

The Silver Creek Total Maximum Daily Load for Dissolved Zinc and Cadmium was prepared for the Utah Department of Environmental Quality (UDEQ) - Division of Water Quality (TMDL, Baker et al, 2001). The TMDL analyzed data from nine EPA STORET stations in Silver Creek. One location was located at the upstream end of the State Route 248 North Reach and one location was located directly downstream from the Promontory East and West Reaches. The remaining stations were located outside of OU3, both up and downstream. Other data used in the TMDL included data collected by USGS and EPA. The TMDL analyzed data collected over a thirteen-year period. The TMDL focused on the effects of dissolved cadmium and zinc and determined the maximum waste load allocations and proposed effluent limits for zinc (0.39 mg/l) and cadmium (0.0008 mg/l) to assure that chronic water quality endpoints are met in the stream (Baker et al., 2001).

## **1.2 Work Plan Organization**

This Work Plan contains elements that allow the simultaneous collection of data for the EE/CA and the RAA, and is organized into separate sections as follows:

<u>Section</u>	<u>Topic</u>
Section 1	Introduction
Section 2	Previous Investigations
Section 3	Site Characterization
Section 4	Supplemental Risk Evaluation
Section 5	Engineering Evaluation/Cost Analysis
Section 6	Restoration Alternatives Analysis
Section 7	Proposed EE/CA Outline
Section 8	Schedule and Community Involvement
Section 9	References

## **2.0 PREVIOUS INVESTIGATIONS**

The EE/CA will be prepared using extensive site characterization data previously collected by:

- Tetra Tech (for EPA);
- United Park;
- USGS;
- BLM;
- Upper Silver Creek Watershed Stakeholders Group; and
- State of Utah.

A list of previous investigations is presented in Table 1-1 (attached to this document). Previous investigations with data pertinent to OU3 are summarized in Attachment A.

### **2.1 *Summary of Data Gaps***

This Section describes data gaps identified during review of previous investigations, and based on these gaps identifies the data collection needed to complete the EE/CA. The primary data source for each area is identified. Other data sources are presented in Attachment A.

This Section anticipates that data gaps may exist for each area. Additional sample locations will be determined in consultation with the Environmental Agencies.

#### **2.1.1 Middle Reach**

The Middle Reach contains approximately 6,700 feet of Silver Creek stream length from the boundary with Prospector Drain (OU4) to Hwy 40.

The 2,200 foot long uppermost portion of the Middle Reach has undergone extensive characterization by the BLM (2005). This section of the Middle Reach consists of land owned by the BLM and lands owned by the State of Utah Division of Parks and Recreation (UDPR) for the Rail Trail. Data provided by BLM and others will be used quantitatively if it meets Data Quality Objectives in the Quality Assurance Project Plan (QAPP) or qualitatively if the data do not meet these requirements to conduct the EE/CA in wetland portions in this area. However, data gaps, primarily related to soil characterization in the upland portions of this area, may exist. Upland soils will be characterized with detail sufficient to complete the EE/CA.

There is not sufficient existing data for the remaining 4,500 feet of this reach to conduct the EE/CA. Data gaps include spatial distribution of tailings, impacted sediments and soils.



Therefore, surface and subsurface soil and sediment data will be collected in this area. Data will be collected in quantities sufficient to complete the EE/CA. The data will be used to refine volume estimates for removal alternatives. The existence of beaver ponds containing standing water in portions of this area may make data collection difficult without draining/dewatering the ponds. Accordingly, EPA may determine in consultation with the other Environmental Agencies that data collected outside of the beaver pond areas, including upstream data collected by BLM, may be extrapolated into these areas.

Surface water samples will be collected to help determine removal strategies. The location of surface water samples will be determined during development of the Sampling and Analysis Plan (SAP) in consultation with the Environmental Agencies to isolate potential sources of contamination.

Groundwater discharge to surface water samples will be collected to help determine removal strategies. The location of groundwater samples will be determined during development of the SAP in consultation with the Environmental Agencies to isolate potential sources of contamination in the shallow Silver Creek or other alluvial aquifers.

### **2.1.2 Floodplain Tailings Reach**

The FPT Reach contains approximately 2,300 feet of Silver Creek stream length from Highway 40 to State Route 248.

As part of the Upper Silver Creek Watershed investigation, UPCM installed and sampled a series of sixteen shallow monitoring wells in an area of exposed tailings in the FPT Reach. Data collected included groundwater samples and distribution of tailings. Areas outside of the exposed tailings were not investigated.

Potential data gaps include spatial distribution of tailings, impacted sediments and soils. Accordingly, surface and subsurface soil and sediment data will be collected in this area. Data will be collected and sample locations will be determined in consultation with the Environmental Agencies to help determine removal strategies. The data will be used to refine volume estimates for removal alternatives.

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Surface water samples will be collected to help determine removal strategies. The location of surface water samples will be determined during development of the SAP in consultation with the Environmental Agencies to isolate potential sources of contamination.

Groundwater samples will be collected and sample locations will be determined in consultation with the Environmental Agencies to help determine removal strategies. The location of

groundwater samples will be field-fit to isolate potential sources of contamination in the shallow Silver Creek alluvial aquifer.

### **2.1.3 State Route 248 North Reach**

Portions of the State Route 248 North Reach have undergone extensive characterization by Tetra Tech (2008a, 2008b and 2008c). With the exception of three parcels, data provided by Tetra Tech is generally sufficient to conduct the EE/CA for upland soils in this area. These three parcels total approximately 60 acres and consist of the two Burbidge parcels and the power line separating them in the southeastern portion of this area.

Other data gaps in this area are limited to obtaining additional, fill-in information on the spatial distribution of tailings and impacted sediments in wetland areas located between the Tetra Tech cross-sections. The data will be used to refine volume estimates for removal alternatives. Surface and subsurface soil and sediment data will be collected in these areas.

Surface water sampling was conducted in this reach by Tetra Tech (2008a, 2008b and 2008c) and the Upper Silver Creek Watershed Group (USCWG) (RMC 2000a and 2000b). Additional surface water samples will be collected as part of the Site Characterization. The location of surface water samples will be determined in the SAP and QAPP in consultation with the Environmental Agencies.

Groundwater samples will be taken to help determine removal strategies. The location of groundwater samples will be determined in the SAP and QAPP in consultation with the Environmental Agencies

### **2.1.4 P. C. West Reach**

The P. C. West Reach has undergone minimal characterization by Tetra Tech (2008a, 2008b and 2008c). Potential data gaps in this area include information on the spatial distribution of potentially impacted upland soils, tailings and sediments in wetland areas sufficient to conduct the EE/CA. Surface and subsurface soil and sediment data will be collected in these areas as part of the Site Characterization. The data will be used for volumetric determinations for the removal alternatives.

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Surface water samples will be collected to help determine removal strategies. The location of surface water samples will be determined during development of the SAP in consultation with the Environmental Agencies to isolate potential sources of contamination.

Groundwater samples will be collected to help determine removal strategies. The location of groundwater samples will be determined during development of the SAP in consultation with the Environmental Agencies to isolate potential sources of contamination.

### **2.1.5 P. C. East Reach**

The P. C. East Reach has undergone extensive characterization by Tetra Tech (2008a, 2008b and 2008c). Data provided by Tetra Tech is generally sufficient to conduct the EE/CA in this area. Potential data gaps in this area are limited to obtaining additional, fill-in information on the spatial distribution of tailings and impacted sediments in wetland areas. The data will be used to refine volumetric determinations for the removal alternatives. Surface and subsurface soil and sediment data will be collected as part of the Site Characterization in these wetland areas.

Surface and ground water samples will be collected as part of the Site Characterization and will be used in determining removal strategies. The location of surface water samples will be determined in consultation with the Environmental Agencies and will be described in the SAP.

## **3.0 SITE CHARACTERIZATION**

This section describes the investigations that will be conducted to:

- Describe the nature and extent of contamination at OU3;
- Provide the information to conduct streamlined risk evaluations;
- Provide the information to develop and evaluate removal alternatives; and
- Identify and characterize potentially unacceptable risks to human health and the environment.

### **3.1 Planning Documents**

Planning documents will be prepared to guide field activities. They will include the SAP, which shall consist of a Field Sampling Plan (FSP) and QAPP, and a Health and Safety Plan (HASP).

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#### **3.1.1 Sampling and Analysis Plan**

The SAP will comply with 40 C.F.R. 300.451(b)(4)(ii) and will include specific procedures for collecting, transporting and analyzing all samples required to complete the EE/CA. The SAP will consist of a FSP and QAPP. The FSP will include sample locations, methodologies, analytical methods and Standard Operating Procedures (SOPs) for sample collection. The QAPP will be prepared consistent with "EPA Guidance for Quality Assurance Project Plans," EPA

QA/G5 (EPA/600/R-98, Feb. 1998), and will include identification of the data quality objectives and the quality assurance and quality control (QA/QC) protocols that will be used to achieve these objectives. The SAP will also provide for sampling measures to achieve the objectives outlined in Appendix G of the Settlement Agreement.

The SAP will provide that UPCM will consult with UDPR with regard to activities on property deeded to UDPR pursuant to the federal Rails-to-Trails Act (Rail Trail). During construction activities, UPCM will preserve or adequately replace the integrity of the Rail Trail so that it is suitable for interim trail use and future railway activation. As a result, the Rail Trail geometry will be maintained or restored if any excavation within the prism is required, consistent with existing conditions and with materials sufficient to maintain the original load design criteria for an active railway corridor. UPCM will replace or repair any signs or fencing that are damaged or removed by UPCM's activities. Remediation alternatives within the Rail Trail right of ways will be addressed in the OU3 EE/CA, and will be consistent with the remedial and restoration activities in the Middle Reach.

### **3.1.2 Health and Safety Plan**

The HASP will be prepared in conformance with applicable Occupational Safety and Health Administration (OSHA) requirements, including but not limited to OSHA regulation in 29 CFR Part 1910 and 1926 (54 Fed. Reg. 9294). The HASP shall be prepared in accordance with EPA's Standard Operation Safety Guide, PUB 9285.1-03, PB 92-963414 (EPA, 1992). The HASP will describe health and safety protocols for OU3 activities that ensure compliance with applicable regulations and provide for a safe work environment. UPCM will consult with UDPR with regard to safety signs and trail closures. UPCM will erect safety signs, signals, and barricades in accordance with 29 C.F.R. Part 1910.145 and 1926.

## **3.2 Potentially Affected Media**

For purposes of this EE/CA Work Plan the potentially affected media at OU3 include:

- Soils;
- Sediments;
- Surface water; and
- Shallow groundwater.

Sampling will be conducted to determine if the vegetation and biota is consistent with the Richardson Flat OU1 for the streamlined risk evaluation.

### **3.3 Site Investigations**

Site investigations will be conducted to fill in data gaps as required to determine the nature and extent of impacts to OU3 and complete the EE/CA. Site investigations will be conducted in accordance with the SAP described in Section 3.1.1, and will be coordinated with those site investigations required to perform the RAA in accordance with Appendix G of the Settlement Agreement.

Site investigations will be conducted with the assumption that a significant portion of the EE/CA will focus on alternatives for conducting the removal activities in the wetland floodplain and channel of Silver Creek. Therefore, data considerations for stream diversions, including logistics during removal and stream and wetland restoration after removal, will be addressed during investigations of OU3.

Site investigations will include determining the depth of impacted soil, sediment and tailings to support volume estimates for removal strategies. Surface and groundwater will be characterized physically and chemically to determine the sources of flow and contaminant loading to Silver Creek. Subsurface characterization of soil, sediments, and groundwater may require test pit excavation, drilling and/or direct push (e.g. geoprobe) operations, monitoring well/piezometer installation and geotechnical sampling. Site investigation work will be conducted year-round, and appropriate precautions will be taken for working in each season.

Site investigations, where applicable, will be field-fit based on the “Triad” approach described by EPA in *Improving Sampling, Analysis, and Data Management for Site Investigation and Cleanup* (EPA, 2001). The Triad approach allows for the streamlined use of a three-pronged approach incorporating the following elements:

- Systematic Planning;
- Dynamic Work Plan; and
- Use of on-site analytic tools.

All investigation work will be conducted in accordance with the planning documents described in Section 3.1. All analytical samples will be analyzed by a laboratory certified by the State of Utah.

#### **3.3.1 Site Characterization Report**

A Site Characterization Report will be prepared to summarize investigations of OU3. The Site Characterization Report will:

- Summarize field investigation activities;
- Present a summary of data collected;
- Present a conceptual site model; and
- Present a screening-level risk assessment.

The results of the investigations of OU3, as presented in the Site Characterization Report, will assist in formulating the EE/CA document.

### ***3.4 Media to be Investigated for the EE/CA***

This Section describes investigations for each specific media at OU3.

#### **3.4.1 Soil**

Soil investigations will be conducted to determine the nature and extent of impacted soil. Soils will be investigated by collecting surface and at-depth soil samples to determine the vertical and horizontal extent of COC impacts. Sample locations will be field-fit to address data gaps determined during the review of existing data. The depth of sampling will be dependent on impacts at OU3 as determined by real-time screening with a field portable X-Ray Fluorescence Meter (XRF) conducted concurrently with soil sampling. Soil samples will be collected in sufficient quantity and spatial distribution to support volume estimates for removal, disposal and restoration.

Based on data gaps discussed in Section 2.1, soil investigations will include:

Middle Reach - Collect upland soils data throughout the Middle Reach;

FPT Reach - Collect upland soils data throughout the FPT Reach;

State Route 248 North Reach - Collect upland soil data throughout the three southeastern parcels of this area (approximately 60 acres) and collect fill-in data as required in other areas;

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P. C. West Reach - Collect soil data sufficient to conduct the EE/CA; and

P. C. East Reach - Collect fill-in data.

### 3.4.2 Sediments

Sediment investigations will be conducted to determine the nature and extent of sediments containing lead concentrations greater than the OU3 screening level of 310 ppm. Sediments will be investigated by collecting surface and at-depth sediment samples to determine the vertical and horizontal extent of lead impacts. Sample locations will be field-fit to address data gaps determined during the review of existing data. The depth of sampling will be dependent on impacts at OU3 as determined by real-time screening with a field portable X-Ray Fluorescence Meter (XRF) conducted concurrently with soil sampling. Sediment samples will be collected in sufficient quantity and spatial distribution to support volume estimates for removal, disposal and restoration.

Based on data gaps discussed in Section 2.1, sediment investigations will include:

Middle Reach - Collect sediment data sufficient to conduct the EE/CA in the area downstream from the BLM-owned property and collect fill-in data in the BLM portion of the reach;

FPT Reach - Collect sediment data sufficient to conduct the EE/CA;

State Route 248 North Reach - Collect sediment fill-in data sufficient to conduct the EE/CA;

P. C. West Reach - Collect sediment data sufficient to conduct the EE/CA; and

P. C. East Reach - Collect sediment fill-in data sufficient to conduct the EE/CA.

### 3.4.3 Surface Water

Surface water investigations will be conducted to determine the nature and extent of OU3 surface water impacts, potential sources of contamination and flow characteristics. Surface water samples will be analyzed for arsenic, cadmium, lead and zinc (total and dissolved). Surface water will be investigated by collecting surface water quality samples and flow data in sufficient quantities to determine impacts and loading and support development of the conceptual site model. Data collected during surface water investigations will be used to characterize the source and flow characteristics of the Silver Creek floodplain and channel. The flow characteristics will be used during removal and restoration activities. Flow characteristic studies may include the use of dye and salt tracer studies and analytical opportunity samples with a reduced suite of analytes.

Based on data gaps discussed in Section 2.1, surface water investigations will include:

All Reaches – Surface water samples will be collected as necessary to characterize OU3 and conduct the EE/CA.

#### **3.4.4 Shallow Groundwater**

Shallow groundwater investigations will be conducted to determine the nature and extent of OU3 shallow groundwater impacts. Groundwater samples will be analyzed for arsenic, cadmium, lead and zinc. Groundwater samples will be collected utilizing existing monitoring wells and/or piezometers where possible. Additional monitoring wells and/or piezometers will be located and installed on a field-fit basis. Monitoring wells will be installed by a driller licensed by the State of Utah.

Monitoring well and/or piezometer water level data will be used to characterize subsurface flow in alluvial aquifers located within OU3.

Based on data gaps discussed in Section 2.1, shallow groundwater investigations will include:

All Reaches – Groundwater samples will be collected to characterize the shallow alluvial aquifer sufficient to conduct the EE/CA.

### **4.0 SUPPLEMENTAL RISK EVALUATION**

Risk evaluations are typically conducted during the EE/CA. However, pre-established screening levels and sufficient data exist for OU3 to facilitate conducting a supplemental risk evaluation prior to implementing this EE/CA Work Plan. If, after consultation with the Environmental Agencies it is determined that additional work is required, the EE/CA may re-evaluate screening levels.

As described in Attachment A, there have been numerous investigations and assessments performed in the Silver Creek Watershed by various agencies and entities. Based on these studies, risk-based screening values adopted by the State of Utah Voluntary Cleanup Program (VCP) will be used in this Work Plan and are included here in Table 3-1 for ease of reference:



**Table 3-1: Screening Values**

<i>Heavy Metals</i>	<i>SOIL<sup>a</sup></i>	<i>SEDIMENT<sup>b</sup></i>	<i>SURFACE WATER<sup>cd</sup></i>	<i>GROUND WATER<sup>e</sup></i>
<b>Arsenic</b>	<b>100 mg/kg</b>	*	<b>340 µg/L</b>	<b>10 µg/L</b>
<b>Cadmium</b>	*	*	<b>0.250 µg/L</b>	<b>10 µg/L</b>
<b>Lead</b>	<b>500 mg/kg</b>	<b>310/500 mg/kg</b>	<b>2.5 µg/L</b>	<b>15 µg/L</b>
<b>Zinc</b>	*	*	<b>118 µg/L</b>	<b>5000 µg/L<sup>e</sup></b>
<b>NOTES:</b>	<sup>a</sup> Soil Samples: 0 – 2” bgs = Surface 2 – 12” bgs = Subsurface	<sup>b</sup> Use sediment values when sampling in irrigation ditches, drainages, and any wetland areas.	<sup>c</sup> Conservative hardness value in LSC surface water = 100 mg/L <sup>d</sup> Silver Creek TMDL limits are Zn - 390 ug/L, Cd - 0.8 ug/L	<sup>d</sup> Drinking Water Maximum Contaminant Levels (MCL) <sup>e</sup> Secondary Standard, no MCL

Notes: \* - There is not a VCP screening value for this element/matrix.

The soil screening value of 500 ppm lead was determined to be far below any calculated remediation goals for recreational uses at the Richardson Flat Tailings Site OU1 (EPA, 2005). The soil screening values of 500 ppm lead and 100 ppm arsenic were used as Preliminary Remedial Goals (PRGs) at OU1 (RD/RA, RMC, 2008). The sediment screening value of 310 ppm lead is the risk-based PRG established for OU1 (EPA, 2005).

## 5.0 ENGINEERING EVALUATION/COST ANALYSIS

The EE/CA will present results of OU3 investigations and will document the development and screening of removal action alternatives to address any unacceptable risks to human health or the environment associated with OU3.

The general goals of the EE/CA are:

- Satisfy environmental review requirements for removal actions;
- Satisfy administrative record requirements for documentation of removal action selection; and
- Provide a framework for evaluating and selecting alternative technologies.

Applicable or Relevant and Appropriate Requirements (ARARs) will be developed and used to evaluate alternatives to address any identified unacceptable risks at OU3. A range of removal alternatives will be developed in the EE/CA, and these alternatives will be evaluated against the short- and long-term criteria of the NCP for effectiveness, implementability and cost. The EE/CA will provide a comparative analysis of the alternatives and will identify the removal action alternative which best satisfies the NCP criteria.

The EE/CA will be prepared in accordance with EPA's *Guidance on Conducting Non-Time Critical Removal Actions under CERCLA* (EPA540-R-93-057, August 1993 (EPA, 1993)). The EE/CA will be consistent with EPA's suggested outline (EPA, 1993) and will at a minimum include the following elements:

Executive Summary:

- Identification of the threat;
- Description of the Removal Action Objectives; and
- Summary of the recommended action.

Site Characterization:

- Site description and background information;
- Description of previous investigations and site activities;
- Summary of the source, nature and extent of contamination;
- Presentation and review of XRF and laboratory data;
- Develop Preliminary Remedial Goals (PRGs); and
- Streamlined Risk Evaluation.

#### Identification of Removal Action Objectives:

- Determination of applicable or relevant and appropriate requirements (ARARs);
- Description of statutory limits on Removal Actions;
- Determination of the scope of the removal for the site;
- Determination of potential schedules for the Removal at the site;
- Description of the planned removal activities.

#### Identification and Analysis of Removal Action Alternatives:

- Effectiveness;
- Implementability; and
- Cost.

#### Comparative Analysis of Removal Action Alternatives:

- Based on effectiveness, implementability and cost.

#### Recommended Removal Action Alternative:

- Description of the recommended Removal Action Alternative and reasoning behind the recommendation.

A proposed outline for the EE/CA is presented in Section 7.0.

### **5.1 Removal Action Objectives**

This section discusses the development of preliminary response action objectives that are usually presented in the EE/CA. The EE/CA will consider these preliminary RAO's and any others that are identified during development of the EE/CA. These preliminary objectives may be modified following completion of the EE/CA.

Two preliminary response action objectives for the site have been established:

- Isolate surface water from mine-impacted materials present in the Silver Creek floodplain; and
- Reduce, where necessary, the potential for human exposure to elevated lead and arsenic concentrations on recreational trails.

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## **6.0 INJURY ASSESSMENT AND RESTORATION ALTERNATIVE ANALYSIS**

An Injury Assessment and Restoration Alternatives Analysis will be conducted following the EE/CA process and EPA's issuance of an Action Memorandum using data collected as part of this Work Plan. The scope, process and schedule for the RAA are addressed in *Scope of Work* -

*United Park City Mines for Injury Assessment and Restoration Alternatives Analysis for the Richardson Flat Tailings Site ([DATE]) (Appendix G to the Settlement Agreement).*

## **7.0 PROPOSED EE/CA OUTLINE**

The Engineering Evaluation/Cost Analysis (EE/CA) will include the following sections:

Executive Summary

List of Acronyms and Abbreviations

Table of Contents

Section 1	Introduction and Site Background
Section 2	Site Characterization
	-- Previous removal actions (OU1)
	-- Analytical data
Section 3	Source, Nature and Extent of Contamination
Section 4	Supplemental Risk Evaluation
Section 5	Removal Action Scope, Goals and Objectives
	Identification of RAOs
	-- Statutory limits on remedial actions
	-- Determination of removal scope
	-- Determination of removal schedule
	-- Planned remedial activities
Section 6	Identification of Response Alternatives
Section 7	Screening and Development of Response Alternatives
Section 8	Analysis and Comparison of Response Alternatives
Section 9	Comparative Analysis of Alternatives
Section 10	Recommended Removal Action Alternative/Response Alternative
Section 11	Budget and Projected Schedule
Section 12	List of Preparers and Reviewers
Section 13	List of Agencies, Organizations and Parties Contacted
Section 14	References

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## **8.0 SCHEDULE AND COMMUNITY INVOLVEMENT**

This section presents schedule and community involvement elements.

## 8.1 EE/CA Schedule

The following is the projected schedule for the performance of the work to be conducted under this Work Plan:

**Table 8-1 Schedule for EE/CA Deliverables and Activities**

Deliverable	Due Date <sup>1</sup>
Quarterly Progress Reports	Progress reports are due no later than the 15 <sup>th</sup> day of each January, April, July and October.
Sampling Analysis Plan	Three Months after the Settlement Agreement <sup>2</sup> Effective Date
Quality Assurance Project Plan	Three Months after the Settlement Agreement <sup>2</sup> Effective Date
Health and Safety Plan	Three Months after the Settlement Agreement <sup>2</sup> Effective Date
Investigation Activities	Initiate within one month (weather permitting) after EPA approval of the Sampling Analysis Plan, Quality Assurance Project Plan and Health and Safety Plan
Site Characterization Report	No later than 90 days from receipt of all analytical laboratory data.
Proposed Engineering Evaluation/Cost Analysis Outline	The proposed EE/CA outline will be submitted to EPA prior to or with the Site Characterization Report.
Engineering Evaluation/Cost Analysis	Three months after the EPA acceptance date of the Site Characterization Report.

<sup>1</sup> Due dates as shown are for the initial draft deliverables. Revised deliverables (including one redline version) are due 30 days from receipt of EPA comments or revisions/modifications. Documents become final upon approval by EPA.

<sup>2</sup> Settlement Agreement (Administrative Settlement Agreement and Order on Consent) is effective upon signature by all parties thereto.

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## 8.2 Community Involvement

EPA will develop and implement community relations activities for OU3. UPCM shall, as requested by EPA, assist EPA by providing information regarding the Site and/or OU3 history, participating in public meetings, developing graphics, placing newspaper ads developed by EPA, or distributing fact sheets developed by EPA.

## 9.0 REFERENCES

Note: This Section contains references in this Work Plan, Attachment A and documents relevant to performing the EE/CA.

Agra Earth and Environmental (Agra), Inc., 2000, Site Inspection Analytical Results Report, Marsac Mill, Park City, Summit County, Utah. Consultant's report prepared for Park City Municipal Corporation.

Argonne National laboratory, Applied Geosciences and Environmental Management Section, Environmental Research Division, (Argonne), 2003, The QuickSite Investigation for the Upper Silver Creek Watershed, Utah; Regional Analysis and Recommendations.

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Dames and Moore, 1975, Report Of Groundwater and Foundation Investigation Northeastern Portion of Prospector Square Development Site, Park City, Utah for Prospector Square Development Company

Dynamac Corporation, 2003, Final Silver Maple Wetland Functional Assessment  
Giddings, E.M., Hornberger, M.I., and Hadley, H.K., 2001, Trace metal concentrations in sediment and water and health of aquatic macroinvertebrate communities of streams near Park City, Summit County, Utah: U.S. Geological Survey Water- Resources Investigations Report 01-4213.

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Mason, J.L., 1988, Hydrology of the Prospector Square Area, Summit County, Utah, United States Geological Survey, Water Resources Investigation Report 88-4156.

Michael Baker Jr., Inc./ Psomas (Baker et al), 2001, Silver Creek Total Maximum Daily Load For Dissolved Zinc And Cadmium, Prepared For: Utah Division of Water Quality (UDWQ)

Montgomery Watson Harza Americas, Inc. (MWH), 2002, Hydrogeologic Review of Richardson Flat Tailings Site.

Resource Management Consultants, Inc. (RMC), 2000a, Analytical Results for Surface Water Monitoring Activities Conducted May 2000, Addendum to the Sampling and Analysis Plan for Upper Silver Creek Watershed (RMC. 2000a);

Resource Management Consultants, Inc. (RMC), 2000b, Analytical Results for Surface Water Monitoring Activities Conducted September and November 2000, Addendum to the Sampling and Analysis Plan for Upper Silver Creek Watershed.

Resource Management Consultants, Inc. (RMC), 2003, Ecological Sampling and Analysis Plan for the Determination of the Nature and Effects of Heavy Metals within Wetland areas at Richardson Flat.

Note: The following 2 documents in combination are referred to as the "OU1 RIFS":

Resource Management Consultants, Inc. (RMC), 2004a, Focused Remedial Investigation (RI) Report for Richardson Flat, Site ID Number: UT980952840.

Resource Management Consultants, Inc. (RMC), 2004b, Focused Feasibility Study Report (FS) for Richardson Flat, Site ID Number: UT980952840

Resource Management Consultants, Inc. (RMC), 2008, Remedial Action/Remedial Design Work Plan (RD/RA), Richardson Flat, Site ID Number: UT980952840.

Resource Management Consultants, Inc. (RMC), 2009, Level II Riparian Survey, Lower Silver Creek

Resource Management Consultants, Inc. (RMC), 2010, Sampling and Analysis Plan, Remedial Activities, Lower Silver Creek operable Unit 2, Richardson Flat Tailings Site, Park City, UT, Site ID Number: UT980952840.

Syracuse Research Corporation (SRC), 2002, Screening Ecological Risk Assessment for Richardson Flat Tailings, Prepared for: US Environmental Protection Agency, Region 8.

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Syracuse Research Corporation (SRC), 2003, Baseline Human Health Risk Assessment for Recreational Visitors at Richardson Flat Tailings, Prepared for: US Environmental Protection Agency, Region 8.

Tetra Tech, Inc., 2008a, Field Sampling Plan for Upper and Lower Silver Creek Summit County, Utah, Prepared for: US Environmental Protection Agency, Region 8

Tetra Tech, Inc., 2008b, Draft Lower Silver Creek Data Summary Report, Prepared for: US Environmental Protection Agency, Region 8

Tetra Tech, Inc. 2008c, Lower Silver Creek Wetland Delineation Park City, Utah, Prepared for: US Environmental Protection Agency, Region 8

Tetra Tech, Inc. 2008d, Draft Lower Silver Creek, Utah Reactive Transport Modeling under High Flow Conditions for Cadmium and Zinc, Prepared for: US Environmental Protection Agency, Region 8

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United States Bureau of Land Management (BLM), 2003, Final Silver Maple Wetland Functional Assessment.

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United States Environmental Protection Agency (EPA), 1990, Guidance for Data Useability in Risk Assessment, OSWER Directive #9285.7-05.

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United States Environmental Protection Agency (EPA), 1993, Guidance on Conducting Non-Time Critical Removal Action Under CERCLA, EPA 540-R-93-057.

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United States Environmental Protection Agency (EPA), 2001, Improving Sampling, Analysis and Data Management for Site Investigation and Cleanup, EPA-542-F-01-030a.



United States Geological Survey (USGS), 1989, Administrative Report, Data-Collection Activities by the USGS in Support of Ground-Water Flow Modeling Being Conducted by the BLM Near the Prospector Square Tailings Site, Park City, Utah.

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United States Geological Survey (USGS), 2004, Quantification of Metal Loading to Silver Creek Through the Silver Maple Claims Area, Park City, Utah, May 2002, Water Resources Investigations Report 0.-4296.

United States Geological Survey (USGS), 2007, Principle Locations of Metal Loading from Flood-Plain Tailings, Lower Silver Creek, Utah, April 2004, Scientific Investigations Report 2007-5248.

Utah Department of Natural Resources (DNR) and the United States Geological Survey (USGS), 1986, Water Resources of the Park City Area, Utah with Emphasis on Groundwater; Technical Publication No. 85. W.F. Holmes, K.R. Thompson, and Michael Enright (published by DNR).

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Utah Department of Environmental Quality (UDEQ), 2004, News release, Silver Creek Fish Advisory.

**TABLE 1-1  
OU3 PREVIOUS STUDIES**

Study/Document	Author/Entity	Date	Conducted For	Soil	Groundwater	Surface Water	Sediments	Plants	Fish	Macroinvertebrates	Wildlife	Wetlands	Hydrology	Removal/Remediation	Risk Assessment	Location	Notes
Site Inspection Analytical Results Report, Marsac Mill	Agra Earth and Environmental	2000	PCMC	?												Upstream of OU4	Site was remediated.
Hydrology and Snowmelt Simulation of the Snyderville Basin, Technical Publication 115	Brooks, et al./USGS	1998	USGS										*			Area-Wide	
Removal Site Inspection, Silver Maple Claims.	BLM	2005	BLM	*		*	*	*		*	*	*	*		*	OU3 - Onsite	Included Geophysical, determined extents and volumes within BLM-owned land.
Report Of Groundwater and Foundation Investigation Northeastern Portion of Prospector Square Development	Dames and Moore	1975	Prospector Square Development Company										?			OU4	
Final Silver Maple Wetland Functional Assessment	Dynamac Corporation	2003	BLM			*	*	*				*				OU3 - Onsite	
Trace metal concentrations in sediment and water and health of aquatic Macroinvertebrate communities of streams near Park City	Giddings, et al./USGS	2001	USGS			*	*			*						OU3 - Onsite and Area-Wide	
Water resources of the Park City area, Utah, with emphasis on groundwater	Holmes, et al./USGS	1986	UDNR/USGS		*								*			Area-Wide	
Quantification of metal loading to Silver Creek through the Silver Maple Claims	Kimball, et al./USGS	2004	USGS			*							*			OU3 - Onsite and Area-Wide	
Principal Locations of Metal Loading from Floodplain Tailings	Kimball, et al./USGS	2005	USGS			*							*			OU3 - Onsite and Area-Wide	
Groundwater Flow Modeling for Prospector Square and Silver Maple Claims Tailings	Kolm, et al./USGS	2005	USGS										*			OU3 and OU4	

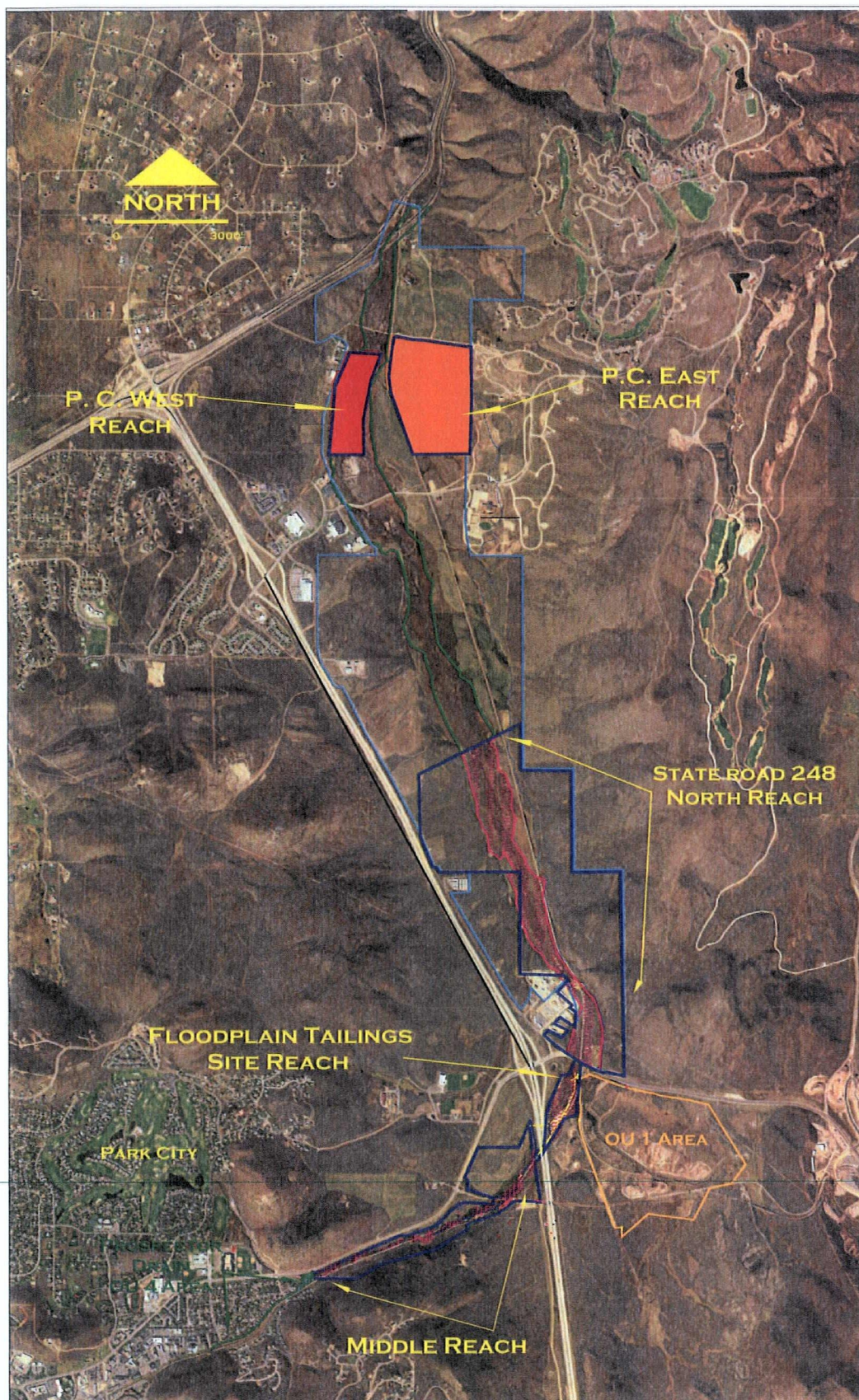
**TABLE 1-1  
OU3 PREVIOUS STUDIES**

Study/Document	Author/Entity	Date	Conducted For	Soil	Groundwater	Surface Water	Sediments	Plants	Fish	Macroinvertebrates	Wildlife	Wetlands	Hydrology	Removal/Remediation	Risk Assessment	Location	Notes
Hydrology of the Prospector Square Area	Mason, J.L./USGS	1988	USGS										*			OU4	
Silver Creek Total Maximum Daily Load for dissolved zinc and cadmium	Michael Baker Jr., Inc.	2004	UDWQ			*										Area-Wide	
Lower Silver Creek, Utah, Reactive Transport Modeling Under High Flow Conditions for Cadmium and Zinc	Tetra Tech Inc.	2008	EPA			*							*			OU3 - Onsite	
Draft Lower Silver Creek Data Summary Report	Tetra Tech Inc.	2008	EPA	*	*	*	*									OU3 - Onsite	
Lower Silver Creek Draft Wetland Delineation	Tetra Tech Inc.	2008	EPA									*	*			OU3 - Onsite	
Lower Silver Creek Innovative Assessment Work Plan	Tillia, Ann M/UDERR	2001	UDERR	*		*	*									OU3 - Onsite	Work Plan for 2002 Data Report.
Innovative Assessment Analytical Results Report	Tillia, Ann M/UDERR	2002	UDERR	*		*	*									OU3 - Onsite	
Ecological Sampling and Analysis Plan for the Determination of the Nature and Effects of Heavy Metals within Wetland areas at Richardson Flat	RMC	2003	United Park	*	*	*	*	*	*	*						RF-Adjacent to OU3	Sampling Plan
Administrative Report, Data-Collection Activities by the USGS in Support of Ground-Water Flow Modeling Being Conducted by the BLM Near the Prospector Square Tailings	USGS	1989	BLM										*			OU4	
Water Resources of the Park City Area, Utah with Emphasis on Groundwater	UDERR/USGS	1986	UDERR/USGS										*			Area-Wide	
Groundwater and Surface Water Study Report, Silver Creek Tailing Site	Utah Department of Health (UDH)	1989	UDH														

**TABLE 1-1  
OU3 PREVIOUS STUDIES**

Study/Document	Author/Entity	Date	Conducted For	Soil	Groundwater	Surface Water	Sediments	Plants	Fish	Macroinvertebrates	Wildlife	Wetlands	Hydrology	Removal/Remediation	Risk Assessment	Location	Notes
Focused Remedial Investigation (RI) Report for Richardson Flat	RMC	2004	United Park	*	*	*	*	*	*	*			*		*	RF OU1-Adjacent to OU3	Includes Floodplain Tailings located in OU3
Analytical Results for Surface Water Monitoring Activities Conducted September and November 2000	RMC	2000	USCWG			*	*									Area-Wide	Includes locations in OU3
Analytical Results for Surface Water Monitoring Activities Conducted May 2000,	RMC	2000	USCWG			*	*									Area-Wide	Includes locations in OU3
Hydrogeologic Review of Richardson Flat Tailings Site.	MWH	2002	United Park										*			RF-Adjacent to OU3	Includes some hydro information on OU3.
QuickSite Investigation for the Upper Silver Creek Watershed	Argonne National Laboratory	2003	EPA										*			OU3 - Onsite and Area-Wide	
Data Interpretation Report, Upper Silver Creek Watershed	Jim Christiansen/EPA	2001	EPA/USCWG			*	*									OU3 - Onsite and Area-Wide	Data interpretation only Includes locations in OU3.





**FIGURE 1-1 OU 3 AREAS  
(OUTLINED IN BLUE)**

## **APPENDIX D**

### **Statement of Work**

#### **Investigation and Preparation of Engineering Evaluation/Cost Analysis for Prospector Drain Operable Unit 4 of the Richardson Flat Tailing Site**

##### **I. Introduction**

The purpose of the engineering evaluation (EE) is to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from OU4 of the Site. The purpose of the cost analysis (CA) is to identify and evaluate alternatives to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants or contaminants at or from OU4, the Prospector Drain.

This Statement of Work (SOW) is part of and incorporated into the Administrative Settlement Agreement and Order on Consent for EE/CA Investigations and Removal Actions (Settlement Agreement) for the Richardson Flat Tailings Site in Park City, Utah. Unless otherwise expressly provided in this SOW, the terms used herein that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or such regulations. Whenever terms defined in the Settlement Agreement are used in this SOW, they shall have the same meaning assigned to them in the Settlement Agreement.

##### **II. Purpose of the Statement of Work**

This Statement of Work (SOW) outlines the general requirements for conducting the EE/CA at OU4 of the Site. Park City shall conduct the EE/CA in accordance with this SOW and the requirements in the Settlement Agreement, and consistent with the National Contingency Plan (40 CFR Part 300), the EPA's *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (EPA540-R-93-057), and any other guidance documents that EPA identifies as relevant to any aspect of conducting an EE/CA for OU4. The tasks outlined in this SOW are organized in accordance with the *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4), (EPA/240/B-06/001) and the EE/CA Approval Memorandum.



EPA will provide oversight of Park City's activities throughout the EE/CA. Park City shall support EPA's initiation and conduct of oversight activities. EPA's determinations, approvals, and activities as provided for in the Settlement Agreement and in the SOW shall be conducted in consultation with UDEQ as provided for by CERCLA, the National Contingency Plan, and applicable guidance.

Performance of the work described in this SOW by Park City and EPA's review and approval of documents and activities described in this SOW shall be performed in accordance with the procedures described in the Settlement Agreement. Park City shall furnish all necessary personnel, materials, and services needed or incidental to, performing the work described in this SOW, except as otherwise specified in the Settlement Agreement.

### **III. INITIAL PLANNING FOR THE ENGINEERING EVALUATION**

#### **A. Assemble Existing Information**

Park City shall assemble existing information relevant to the EE/CA for OU4 including but not limited to:

- All documentation and reporting of historical operations activities and studies concerning discharges from the Prospector Drain and contaminants associated therewith,
- All environmental sampling and analysis plans,
- All environmental and other data, maps and photos, and
- All reports describing data summaries, data evaluations, or interpretations of data.

This shall include available data relating to the types and quantities of hazardous substances, pollutants, or contaminants within OU4.

A partial list of relevant existing information is set forth in Table 1 attached hereto. Park City shall provide the information to EPA and UDEQ in accordance with the schedule contained in Table 2 of this SOW.

#### **B. Conduct Field Visit**

Park City shall conduct a field visit of OU4 during the project scoping phase to assist in developing a conceptual understanding of sources and areas of contamination as well as potential exposure pathways and receptors at OU4. Park City shall invite EPA and UDEQ to participate in the field visit and shall provide at least two weeks notice of the proposed date. EPA may invite other interested agencies to participate in the field visit.

#### **IV. COMMUNITY RELATIONS**

EPA will develop and implement community relations activities for OU4. Park City shall, as requested by EPA, assist EPA by providing information regarding the Site and/or OU4 history, participating in public meetings, developing graphics, placing newspaper ads developed by EPA, or distributing fact sheets developed by EPA.

#### **V. SITE CHARACTERIZATION**

Park City will conduct site characterization of OU4 in accordance with Section IX (EE/CA Work to be Performed) of the Settlement Agreement. The overall objective of site characterization is to describe the nature and extent of contamination within OU4, characterize the sources of metals loading and the drainage area contributing to the Prospector Drain, and to describe threats and potential threats to human health or the environment. Park City shall perform the activities described in this section including:

- Prepare and implement a work plan summarizing existing data, identifying data gaps, and proposing appropriate investigations to characterize the sources of water and the drainage area contributing to the Prospector Drain;
- Prepare and implement a sampling and analysis plan (SAP);
- Document field activities;
- Prepare field investigation summary reports;
- Prepare comprehensive site characterization summary report; and
- Prepare a draft and final EE report.

The characterization efforts must include determining depth and direction of travel of shallow ground water. Shallow water table connection to Silver Creek and the Homer Pace irrigation canal shall be investigated to determine if a contamination migration pathway exists. Subsurface characterization of waste and ground water may require drilling operations and geotechnical sampling, which must be described in the SAP. Surface water and ground water must be characterized physically and chemically to evaluate the sources of flow and contaminant loading to Silver Creek and the Homer Pace irrigation canal. The site characterization summary reports shall summarize all field investigation activities, present a summary of data collected (complete data to be presented as a Microsoft Excel spreadsheet appendix) and streamlined risk evaluation that includes a conceptual site model and screening level risk assessment.

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Park City shall notify EPA at least two weeks in advance of field work starting for the EE and shall provide a quarterly progress report and participate in meetings at EPA's request. Park City shall notify EPA in writing upon completion of field activities.



A. Development and Implementation of Sampling and Analysis Plan

Park City will develop a SAP for the EE in accordance with Section XIII (EPA Approval of Plans and Other Submissions) of the Settlement Agreement. The SAP will include a description of goals, a list of key personnel and responsibilities, Data Quality Objectives (DQOs), a Field Sampling Plan (FSP), a Quality Assurance Project Plan (QAPP), a data management plan and a schedule. The SAP will describe the sampling program including the rationale, number, type, and location of samples; the sample collection, handling and custody procedures; the required field documentation and the required analytical methods. Each QAPP will describe the measures necessary to generate data of sufficient quality to achieve the DQOs. The QAPP will contain details of any special training requirements and certifications, quality control requirements for field activities and analytical processes, and data validation requirements. Park City shall follow, as appropriate, *Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures* (OSWER Directive No. 9360.4-01, April 1, 1990), as guidance for QA/QC sampling.

Park City shall prepare a Health and Safety Plan (HSP) specific to the activities in OU4 and submit it to EPA and UDEQ. This plan shall be prepared in accordance with *EPA's Standard Operation Safety Guide* (PUB 9285.1-03, PB 92-963414, June 1992). In addition, the plan shall comply with all currently applicable *Occupational Safety and Health Administration (OSHA)* regulations found at 29 CFR Part 1910. Park City shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action. EPA shall not be responsible for ensuring the health and safety of Park City employees or contractors performing any of the work described in this SOW.

Park City shall obtain access to properties for sampling and shall implement the final EPA-approved SAP in accordance with the schedule described in the SAP. Park City shall submit all raw data to the laboratory identified by EPA upon conclusion of each sampling event. EPA shall arrange for analytical data from laboratories to be reported directly to EPA and Park City in the format specified by EPA. EPA will perform all required data validation described in the SAP.

Park City shall consistently document and adequately record in well maintained field logs and laboratory reports, information gathered during site characterization. The method(s) of documentation shall be consistent with that specified in the SAP. Park City shall use field logs to document observations, measurements, and significant events that occur during field activities. ~~Park City shall ensure that laboratory reports document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.~~

Park City shall submit a field investigation report for each phase of sampling within thirty days after its receipt of validation of data to EPA and UDEQ for review in accordance with Section XIII of the Settlement Agreement and the schedule established in the SAP.

#### B. Site Characterization Summary Report

Park City shall prepare a comprehensive site characterization summary report describing the implementation of the work plan and SAP. The summary report shall include the field documentation specified in the SAP, a description of the physical characteristics of the study area, and results of all required field quality control procedures and a summary of the field investigation reports.

#### C. EE Report

After the SAP for the EE has been implemented, Park City shall prepare and submit a draft EE report to EPA and UDEQ for review and EPA approval in accordance with Section XIII of the Settlement Agreement and the schedule contained in Table 2 of this SOW. The EE report shall summarize results of field activities to characterize OU4, the sources of contamination, the nature and extent of contamination and the fate and transport of contaminants.

#### D. Removal Action Objectives

EPA, in consultation with UDEQ, will develop removal action objectives and a refined list of potential State and federal ARARs based on the information provided in the final EPA-approved EE report.

### **VI. DEVELOPMENT AND SCREENING OF RESPONSE ALTERNATIVES AND COST ANALYSIS REPORT**

Park City shall develop general response actions that will satisfy the response action objectives developed by EPA in consultation with UDEQ to address discharges from Prospector Drain. Both passive and active treatment alternatives for reducing contaminant discharge to Silver Creek must be considered

Park City shall assemble selected representative technologies into alternatives that represent a range of treatment and containment combinations that will address the response action objectives for OU4. Each removal action alternative should be evaluated to determine its total projected cost, including direct, indirect and post removal site control costs as outlined by Section 2.6 of the EPA Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA. The OSWER Publication 9360.0-02C *Removal Cost Management System: Version 3.2* (May 1990) (EPA/540/P-90/003, PB90-272691, provides additional guidance on performing cost projections and cost tracking. Specifically the cost comparisons between alternatives must include:

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**Direct Capital Costs:**

- Construction costs
- Equipment and materials costs
- Land Acquisition
- Buildings and services costs
- Relocation expenses
- Transport and disposal
- Analytical costs
- Contingency allowances
- Treatment and operating costs

**Indirect Capital Costs**

- Engineering and design costs
- Legal fees and license or permit costs

**Annual Post Removal Costs**

- Operational Costs
- Maintenance Costs
- Auxiliary Materials and energy
- Disposal of residuals
- Monitoring costs
- Support costs

Park City shall perform a screening of each response alternative based on effectiveness, implementability, and cost. As appropriate, the screening will preserve the range of treatment and containment alternatives that were initially developed. The range of remaining alternatives will include options that use treatment technologies and permanent solutions to the maximum extent practicable.

Within thirty days after EPA approval of the EE Report, Park City shall prepare and submit a draft CA report to EPA and UDEQ for review and EPA approval in accordance with Section XIII of the Settlement Agreement.

**V. Deliverable Document Formats and Schedule**

Quarterly reports may be submitted by electronic mail. All other documents and deliverables submitted under the SOW shall be provided in both hard copy and electronic versions. Draft deliverables submitted for review and comment must be submitted in Microsoft Word so that electronic comments and edits can be completed in Track Changes. Final deliverables may be submitted in hard copy and in Microsoft Word with redline edits. The final approved documents will be submitted in hard copy and electronic PDF format, including approved signature pages. Table 2 establishes a general activities and deliverables schedule for the OU4 activities.

Table 1 – Partial List of investigations to Date

- Agra Earth and Environmental (Agra), Inc., 2000, Site Inspection Analytical Results Report, Marsac Mill, Park City, Summit County, Utah. Consultant's report prepared for Park City Municipal Corporation.
- Brooks, L.E., Mason, J.E., and D.D. Susong., 1998, Hydrology and Snowmelt Simulation of the Snyderville Basin, Park City, and Adjacent Areas, Summit County, Utah: U.S. Geological Survey, Water-Resources Investigation Report.
- Bureau of Land Management (BLM). 2005. Removal Site Inspection, Silver Maple Claims. National Science and Technology Center. Denver, CO. April 25, 2005
- Dames and Moore, 1975, Report Of Groundwater and Foundation Investigation Northeastern Portion of Prospector Square Development Site, Park City, Utah for Prospector Square Development Company
- Dynamac Corporation, 2003, Final Silver Maple Wetland Functional Assessment
- Giddings, E.M., Hornberger, M.I., and Hadley, H.K., 2001, Trace metal concentrations in sediment and water and health of aquatic macroinvertebrate communities of streams near Park City, Summit County, Utah: U.S. Geological Survey Water- Resources Investigations Report 01-4213.
- Holmes, W.F., Thompson, K.R., and Ehright, Michael, 1986, Water resources of the Park City area, Utah, with emphasis on groundwater: Utah Department of Natural Resources Technical Publication 85.
- Kimball, B.A., Johnson, K.K., Runkel, R.L., and Steiger, J.I., 2004, Quantification of metal loading to Silver Creek through the Silver Maple Claims area, Park City, Utah, May 2002: U.S. Geological Survey Water-Resources Investigations Report 03-4296
- Kimball, B.A., Runkel, R.L., and Walton-Day, K., 2005, Principal Locations of Metal Loading from Floodplain Tailings, Lower Silver Creek, Utah, April 2004: U.S. Geological Survey Scientific Investigations Report.
- Kolm, Kenneth E.; Yan, Eugene, 2005 Groundwater Flow Modeling for Prospector Square and Silver Maple Claims Tailings Sites, Park City, Utah
- Mason, J.L., 1988, Hydrology of the Prospector Square Area, Summit County, Utah, United States Geological Survey, Water Resources Investigation Report 88-4156.
- Michael Baker Jr., Inc., 2004, Silver Creek Total Maximum Daily Load for dissolved zinc and cadmium: Utah Department of Environmental Quality, Division of Water Quality, ([http://www.waterquality.utah.gov/TMDL/Silver\\_Creek\\_TMDL.pdf](http://www.waterquality.utah.gov/TMDL/Silver_Creek_TMDL.pdf))
- Tetra Tech Inc., 2008, Lower Silver Creek, Utah, Reactive Transport Modeling Under High Flow Conditions for Cadmium and Zinc
- Tetra Tech, Inc., 2008, Lower Silver Creek Data Summary Report, Park City, Utah.
- Tetra Tech, Inc., 2008, Lower Silver Creek Draft Wetland Delineation, Park City, Utah.

- Tillia, Ann M., 2001, Lower Silver Creek Innovative Assessment Work Plan, Utah Department of Environmental Quality Division of Environmental Response and Remediation.
- Tillia, Ann M., 2002, Innovative Assessment Analytical Results Report, Utah Department of Environmental Quality Division of Environmental Response and Remediation.
- U.S. Environmental Protection Agency and Upper Silver Creek Watershed Stakeholders Group. 2001, Data Interpretation Report Upper Silver Creek Watershed Surface Water/Stream Sediment Monitoring 2000
- United Park City Mines, 2005 Richardson Flat Record of Decision, (<http://www.epa.gov/region8/superfund/ut/richardsonflat/>)
- USGS, 1989. Administrative Report, Data-Collection Activities by the USGS in Support of Ground-Water Flow Modeling Being Conducted by the BLM Near the Prospector Square Tailings Site, Park City , Utah.
- Utah Department of Environmental Quality/Division of Environmental Response and Remediation (UDEQ/DERR) and the United States Geological Survey (USGS); 1986; Water Resources of the Park City Area, Utah with Emphasis on Groundwater; Technical Publication No. 85.
- Utah Department of Health (UDH), 1989, Groundwater and Surface Water Study Report, Silver Creek Tailing Site.

Table 2 - Schedule for Deliverables and Activities

Deliverable	Due Date
Quarterly Progress Reports	In accordance with Paragraph 38 of the Settlement Agreement
EE/CA Work Plan	Within 60 days of the Effective Date of the Settlement Agreement
Sampling Analysis Plan	30 days after EPA approval of the Work Plan
Quality Assurance Project Plan	30 days after EPA approval of the Work Plan
Health and Safety Plan	30 days after EPA approval of the Work Plan
Site Characterization and Investigation Activities	Initiate within one month (weather permitting) after the EPA approval of the Sampling Analysis Plan, Quality Assurance Project Plan and Health and Safety Plan
Field Investigation Reports	30 days after validation of data for each sampling event
Site Characterization Summary Report	No later than 90 days from receipt of all analytical laboratory data.
Draft Engineering Evaluation and Cost Analysis Outline	The proposed EE/CA outline will be submitted to EPA prior to or with the Site Characterization Summary Report.
Draft Engineering Evaluation Report	60 days after the EPA approval of the Site Characterization Summary Report.
Draft Cost Analysis Report	30 Days after EPA approval of the Draft EE/CA documents.

Due date as shown are for the initial draft deliverables. Revised deliverables (Including one redline version are due 30 days from receipt of EPA comments or revisions/modifications. Documents become final upon approval by EPA.

**APPENDIX E**  
**REPOSITORY OPERATING RULES**

The following rules and protocols (the "*Repository Rules*") shall govern operation and maintenance of the new repository ("*Repository*") by United Park City Mines Company ("*UPCM*"). Capitalized terms used but not defined herein shall have the meanings assigned to them in the Administrative Settlement Agreement and Order on Consent for EE/CA Investigations and Removal Actions ("*Settlement Agreement*") to which this Appendix E is attached.

1. *Procedures for Disposal of Development Waste.* Park City shall make a written request for the disposal of Development Waste to UPCM and EPA. The written request must be made at least ten (10) Days prior to anticipated disposal and shall include:

- Soils/geotechnical report describing the soils characteristic (i.e. plasticity, expansiveness, strength, etc.) specific to any Development Waste being brought to the Repository;
- Any and all analytical data specific to any Development Waste being brought to the Repository, including Phase II Environmental Site Assessment reports or any other reports incorporating subsurface sampling analysis results (reports and data must relate to the specific location where the Development Waste is generated);
- Specific location of the site where the Development Waste was generated;
- Volume of Development Waste to be brought to the Repository (including a request to use a truck with a trailer, if applicable);
- Name of the transporter bringing the Development Waste to the Repository; and
- Anticipated date and time the Development Waste will be brought to the Repository.

The written request shall be sent via email or hand delivery to:

Kerry Gee  
kcgee@unitedpark.com  
1850 Sidewinder Drive, 2nd Floor  
Park City, Utah 84060

Upon receiving the written request, UPCM, in consultation with EPA, shall determine whether the written request satisfies the requirements specified above and is consistent with the Settlement Agreement, including the restriction limiting Park City's disposal of Development Waste at the Repository to 362,000 cubic yards. UPCM shall have five (5) business days after receipt of Park City's written request to make a determination regarding the sufficiency and permissibility of the written request and to provide notice of its determination to Park City. UPCM may respond to Park City's request by email or other written means.

2. *Procedures for Disposal of CERCLA Waste Originating from OU4.* Park City shall make a written request for the disposal of CERCLA Waste originating from OU4 to UPCM and EPA. The written request must be made at least ten (10) Days prior to anticipated disposal and shall include:

- Specific location of the site where the CERCLA Waste was generated;
- Volume of CERCLA Waste to be brought to the Repository (including a request to use a truck with a trailer, if applicable);
- Name of the transporter bringing the CERCLA Waste or Development Waste to the Repository;
- Anticipated date and time the CERCLA Waste will be brought to the Repository; and
- Any and all analytic data specific to any CERCLA Waste being brought to the Repository from OU4.

The written request shall be sent via email or hand delivery to:

Kerry Gee  
 kcgee@unitedpark.com  
 1850 Sidewinder Drive, 2nd Floor  
 Park City, Utah 84060

Upon receiving the written request, UPCM, in consultation with EPA, shall determine whether the written request satisfies the requirements specified above and is consistent with the Settlement Agreement. UPCM shall have five (5) business days after receipt of Park City's written request to make a determination regarding the sufficiency and permissibility of the written request and to provide notice of its determination to Park City. UPCM may respond to Park City's request by email or other written means.

3. *Procedures for Disposal of CERCLA Waste Originating from OU3.* If UPCM disposes of CERCLA Waste subject to the Tipping Fee, UPCM shall maintain a written record for such disposal that includes:

- Specific location of the site where the CERCLA Waste was generated; and
- Volume of CERCLA Waste brought to the Repository

4. *Procedures for Payment.* Payment of Tipping Fees shall be as provided in Paragraph 52 of the Settlement Agreement.

5. *Recordkeeping.* UPCM shall maintain a ledger identifying each written request sent by Park City to UPCM, including the anticipated date of delivery and the estimated amount of Development Waste and/or CERCLA Waste. At the time of the actual delivery, these requests shall be reconciled by UPCM with the actual dates of delivery, the actual amount of Development Waste and/or CERCLA Waste deposited, and the Tipping Fees owed in connection with Development Waste and/or CERCLA Waste deposited and UPCM shall update the ledger to reflect such reconciliation. UPCM's ledger shall also include a running total of Development Waste deposited to date, along with a calculation deducting that amount from the 362,000 cubic yards permitted to be disposed of at the Repository. The ledger shall constitute *prima facie* evidence as to the volumes of Development Waste and/or CERCLA Waste accepted for disposal.

6. *Hours of Operation.* The Parties acknowledge that the Repository will not be open to receive shipments on a full time basis and the hours of operation will be determined by



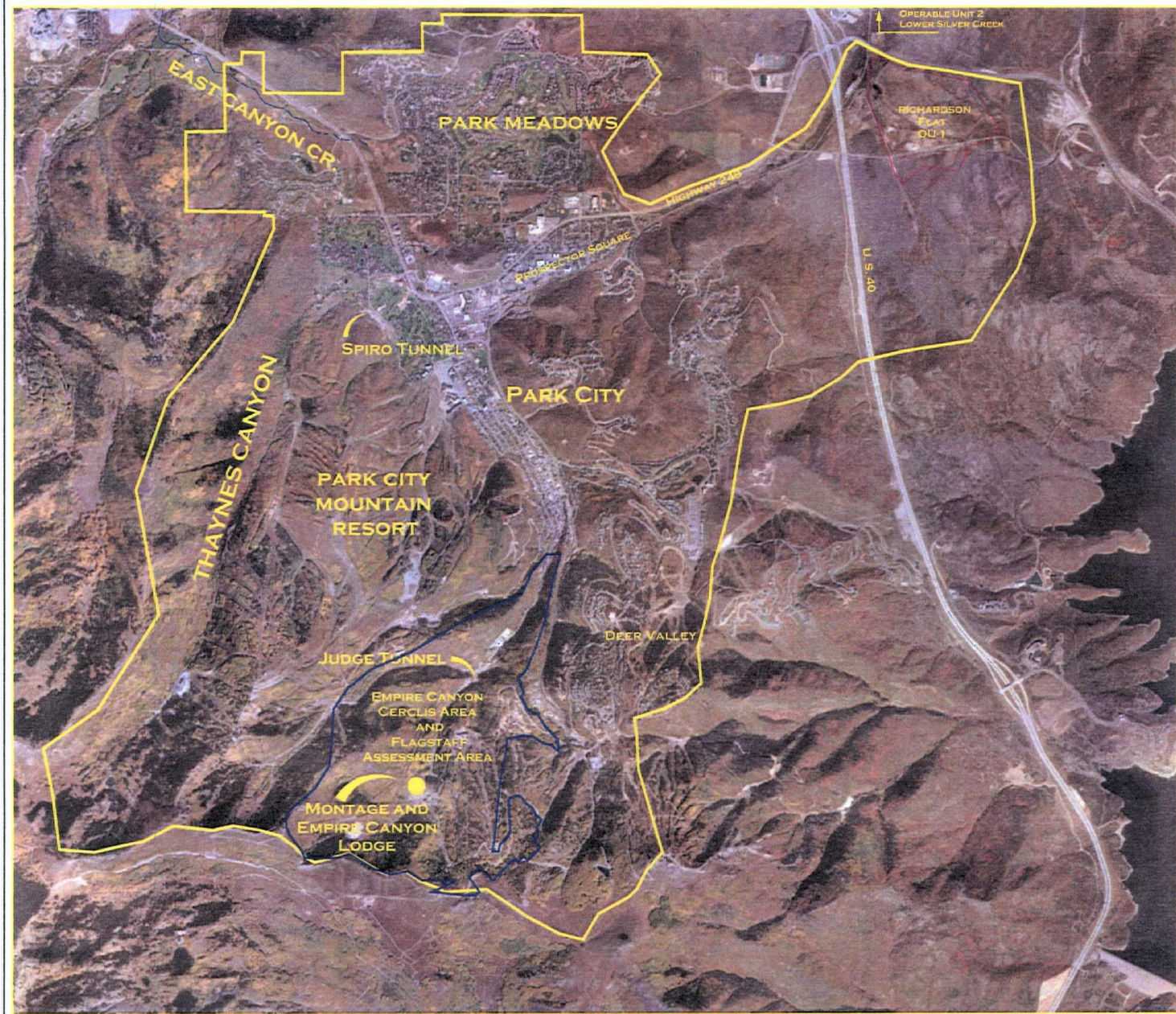
UPCM. UPCM may temporarily suspend operations due to weather or site conditions. If UPCM is not available on Park City's anticipated date of disposal as specified in Park City's written request, UPCM and Park City shall agree on an alternative date.

7. *Prohibited Persons and Materials.* No persons may deposit waste materials at the Repository except as provided by the Settlement Agreement or that otherwise violates any of the rules identified in this Appendix.

8. *Transportation.* All trucks transporting CERCLA Waste or Development Waste to the Repository shall be turned away if not covered. Trucks with trailers are prohibited unless the transporter previously obtains UPCM's permission. The transporter shall follow UPCM's directions when dumping materials at the Repository, or UPCM reserves the right to turn the transporter away. All trucks leaving the Repository will be cleaned by the transporter prior to leaving the Repository and must be cleaned in accordance with best management practices and all applicable state and federal requirements. If the transporter fails to follow these requirements, UPCM reserves the right to refuse that transporter future access to the Repository.

9. *Volume.* The actual volume of CERCLA Waste or Development Waste brought to the Repository will be determined by UPCM based on truck types, sizes and counts and such determination shall be compared against the amount specified in the notice previously provided.

10. *Clean Fill.* UPCM may accept clean fill from any source, at its sole and absolute discretion and determination, and may charge a tipping fee for this material. UPCM shall maintain records regarding the source and quantity of such fill materials. UPCM shall rely upon the EE/CA to determine acceptable contaminate levels for clean fill.



**APPENDIX F**  
**UPPER WATERSHED**  
(DOES NOT ILLUSTRATE OU 1, OU 2 AND OU 3)

**APPENDIX G**  
**SCOPE OF WORK - UNITED PARK CITY MINES**

**FOR**

**INJURY ASSESSMENT AND RESTORATION ALTERNATIVES  
ANALYSIS FOR THE RICHARDSON FLAT TAILINGS SITE,  
OPERABLE UNIT 3, PARK CITY, UTAH**

**April 26, 2012**

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## **Introduction and Objectives**

This Statement of Work (SOW) is an attachment to the Administrative Settlement Agreement and Order on Consent for EE/CA Investigations and Removal Actions (Settlement Agreement). Park City Municipal Corporation (Park City) and United Park City Mines Company (UPCM or RESPONDENT herein) are respondents to the Settlement Agreement. Capitalized terms used in this SOW shall have the meaning assigned to them in the Settlement Agreement, unless the term is defined in the SOW.

This SOW describes the work to be performed by RESPONDENT to fulfill the requirements of Section X of the Settlement Agreement by conducting a Natural Resource Injury Assessment and Restoration Alternatives Analysis ("Injury Assessment and Restoration Alternatives Analysis") for OU3. RESPONDENT shall coordinate with the Natural Resource Trustees in performing this work. RESPONDENT shall provide all documents and responses required by this SOW to the Natural Resource Trustees, the Lead Administrative Trustee (LAT) and to the State Trustee's technical advisors identified in Section XXXIV of the Settlement Agreement. The Natural Resources Trustees will identify a LAT within 30 days of the Effective Date of this Settlement Agreement. Should the Natural Resources Trustees change the LAT, it shall notify the RESPONDENT of the change in designation. The Natural Resource Trustees intend to have the LAT provide coordinated comments to the RESPONDENT regarding all activities and deliverables performed or prepared by the RESPONDENT.

All activities performed and deliverables prepared by RESPONDENT pursuant to this SOW shall be subject to the review, comment, and approval of the Natural Resource Trustees. The activities and deliverables specified in Tasks 1 - 6 of this SOW shall be used by RESPONDENT to prepare the Draft Injury Assessment and Restoration Alternatives Analysis required by Task 7. Thereafter, the Natural Resource Trustees will prepare the Final Injury Assessment and Restoration Alternatives Analysis.

In coordination with the authorities of Trustees for Natural Resources set forth in Subpart G of the National Contingency Plan, 40 C.F.R Part 300, Subpart G, RESPONDENT shall collect data to determine and quantify injuries to natural resources resulting from the release of hazardous substances at OU3. In consultation with the LAT and in coordination with the performance of the EE/CA Work Plan, RESPONDENT shall collect various data types which may include but are not limited to geological (e.g. soils, sediments), biological (e.g. vegetation, biota), surface water, ground water, and air samples and at analytical detection concentrations sufficient to determine potential injury to federal and state natural resources and their supporting ecosystems. RESPONDENT shall coordinate with the Natural Resource Trustees and EPA to ensure that the sampling required for the EE/CA and the Injury Assessment and Restoration Alternatives Analysis is integrated to the extent practicable. All work shall be technically and legally defensible and in full compliance with the National Contingency Plan (NCP) and Natural Resource Damage Assessment (NRDA) Regulations, 43 C.F.R. Part 11. The Natural Resources Trustees acknowledge that the procedures and tasks established and identified in this SOW are consistent with Subpart G of the NCP and the NRDA Regulations.

In accordance with 43 C.F.R. §11.82, RESPONDENT shall, in consultation with the Natural Resource Trustees, develop and evaluate a range of alternatives for the restoration, rehabilitation, replacement and/or acquisition of the equivalent of injured natural resources and the services those resources provide to baseline conditions (hereafter referred to as "restoration alternatives"). Such restoration alternatives will identify and evaluate opportunities for coordinating or integrating implementation of restoration with the Removal Action Alternative selected for OU3. Restoration alternatives must be appropriate for NRDA restoration under the NRDA Regulations and must be described in sufficient detail to be analyzed under the National Environmental Policy Act. The Injury Assessment and Restoration Alternatives Analysis shall be consistent with the outline presented in Attachment A of this SOW. RESPONDENT will perform all necessary technical analyses, edit the documents, prepare graphics, and provide any other necessary technical products for distribution to and review by the Natural Resource Trustees.

This SOW defines the specific tasks to be performed by RESPONDENT to develop its Draft Injury Assessment and Restoration Alternatives Analysis. RESPONDENT will work closely with the Natural Resource Trustees to develop the Injury Assessment and Restoration Alternatives Analysis for OU3, including all related components and reports, and remain in close communication with representatives of the Natural Resources Trustees throughout the work period. Upon request, RESPONDENT shall submit all deliverables in electronic form to the LAT.

### **Project Description and Tasks**

RESPONDENT will be responsible for completing the following tasks for OU3:

#### **Task 1 - Coordinate Assessment Planning and Data Collection and Review with Natural Resource Trustees**

Respondent shall coordinate with the Natural Resources Trustees in developing an Assessment Plan that ensures the assessment is performed in a planned and systematic manner. The Assessment Plan shall be prepared in a manner consistent with the NRDA Regulations.

RESPONDENT shall conduct data collection and interpretation activities to determine and quantify potential injuries resulting from the releases of hazardous substances to natural resources at OU3. RESPONDENT shall coordinate with the Natural Resource Trustees on various data collection activities which may include but are not limited to collecting geological (e.g. soils, sediments), biological (e.g. vegetation, biota), surface water, ground water, and air samples. The Natural Resource Trustees shall review and approve all data collection methods, analytical procedures and results, quality assurance/quality control measures, and all other methods, procedures, or practices needed to determine potential injury to or loss of federal and state natural resources and their supporting ecosystems. These data collection activities shall be coordinated or integrated with data collection activities conducted by RESPONDENT in preparing the EE/CA for OU3 to the extent practicable.

#### Task 2- Assist Natural Resource Trustees with a Baseline Resources and Services Analysis

RESPONDENT shall assist the Natural Resource Trustees with preparing a "Baseline Services Analysis," consistent with the definition of the term "baseline" as defined in 43 C.F.R. Part 11, regarding resources and services within OU3. The Baseline Services Analysis will later be used in preparing the Injury Assessment and Restoration Alternatives Analysis. During preparation of this analysis, RESPONDENT will regularly communicate and interact with the Natural Resource Trustees (via conference calls, meetings and/or the exchange of written material) as injury determination and quantification proceeds. This analysis will provide the basis for assessing potential natural resource injuries and service losses and evaluating the effects of the Removal Action Alternative selected for OU3 on such potential injuries and service losses.

#### Task 3 - Assist Natural Resource Trustees with Identification of Restoration Objectives and the Identification and Quantification of Potential Injuries to Natural Resources

RESPONDENT shall assist the Natural Resource Trustees to identify restoration objectives for OU3. RESPONDENT shall participate in meetings with the Natural Resource Trustees to identify criteria for selection of restoration alternatives that should be used to support development of potential primary and compensatory restoration alternatives as part of Task 5.

RESPONDENT will use readily available information identified in Attachment B to this SOW from and, in coordination with the Natural Resource Trustees, will use data collected under Task 1 to identify and quantify potential injuries to natural resources, including injuries that may have already occurred as a result of the release of hazardous substances at OU3 and injuries that would result from the selected Removal Action Alternative for OU3. As necessary, the Natural Resource Trustees will provide RESPONDENT (or vice-versa) with available documents associated with the CERCLA removal and NRDA processes, other environmental investigations at the RFT Site, and preliminary findings on injuries to natural resources. RESPONDENT will assist the Natural Resource Trustees to develop an analysis of potential past injuries and anticipated injuries that may result from the Removal Action Alternative selected for OU3 to estimate appropriate compensation for lost services using a valuation methodology and technical approaches to quantify injuries in a manner consistent with applicable federal and state statutes and the NRDA regulations. Such analysis shall be included in the Draft Injury Assessment and Restoration Alternatives Analysis.

#### Task 4 - Assist Natural Resource Trustees with Evaluation of Lost Human Use Services

In coordination with the Natural Resource Trustees, RESPONDENT shall assist the Natural Resource Trustees in an assessment of lost and/or diminished recreational uses that may have resulted from the release of hazardous substances at OU3. This assessment will include, but shall not be limited to, reviewing existing information, assisting with the assessment of lost and/or diminished recreational use, and documenting and presenting determined human use losses, if any. Primary and compensatory restoration for lost recreational opportunities or human uses will be analyzed under Task 5 below. Such analysis shall be included in the Draft Injury Assessment and Restoration Alternatives Analysis.

#### Task 5 - Identification, Scaling and Costing of Primary and Compensatory Restoration Projects

Upon issuance of the Final EE/CA for OU3, RESPONDENT shall, in coordination with the Natural Resource Trustees, identify potential restoration alternatives that can be coordinated with the preferred Removal Action Alternative for OU3 identified by the Final EE/CA. In coordination with the Natural Resource Trustees, RESPONDENT will, during the identification of potential restoration projects, develop preliminary estimates of project scale and costs and/or implement valuation approaches, all based on methods consistent with NRDA regulations. Restoration alternatives will include restoration for lost and/or diminished human use and ecological services. Such analysis shall be included in the Draft Injury Assessment and Restoration Alternatives Analysis.

#### Task 6 - Assist Natural Resource Trustees with Development of Maps and Graphics

In coordination with the Natural Resource Trustees, RESPONDENT shall support development of GIS exhibits, maps and other graphics that visually illustrate the extent and severity of injury in the assessment area, link restoration and injury analyses, and/or otherwise support the assessment needs.

#### Task 7 - Prepare Draft and Final Injury Assessment and Restoration Alternatives Analysis

Based on the results of the activities and deliverables required under Tasks 2 through 6, RESPONDENT shall prepare and deliver to the Natural Resource Trustees a Draft Injury Assessment and Restoration Alternatives Analysis 30 days after the Final EE/CA is completed. The Respondent shall assist the Natural Resource Trustees, with revising the Draft Injury Assessment and Restoration Alternatives Analysis, as the Natural Resource Trustees deem appropriate. The Natural Resource Trustees shall complete a final version of the Injury Assessment and Restoration Alternatives Analysis no later than 30 days after EPA issues its Action Memorandum for OU3.

#### Task 8- Meetings and Other Support

RESPONDENT will participate in meetings with the Natural Resource Trustees to facilitate development of the Injury Assessment and Restoration Alternatives Analysis. RESPONDENT should anticipate attending several meetings during the period of performance and expect to participate in conference calls each month with the Natural Resource Trustees (in addition to more frequent interaction with the primary contacts for the Natural Resource Trustees).

#### **Schedule for Coordination Activities and Deliverables**

The Natural Resource Trustees anticipate that aspects of several of the tasks should be coordinated and implemented prior to RESPONDENT's submission of a final EE/CA and issuance of the Action Memorandum for OU3.

<b>Deliverable</b>	<b>Timeline</b>
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## ATTACHMENT A

### EXAMPLE INJURY ASSESSMENT AND RESTORATION ALTERNATIVES OUTLINE (Note: To the extent applicable and appropriate, data and information may be incorporated into documentation by reference.)

Title Page  
Signature Page  
Table of Contents  
List of Tables  
List of Figures  
List of Appendices

#### Summary

1. Introduction
  - 1.1. Authority
  - 1.2. Contents of This Document
  - 1.3. Public Participation
2. Purpose and Need for Restoration
  - 2.1. Purposed and Need
  - 2.2. Overview and History of OU3
    - 2.2.1. OU3Location and Description
    - 2.2.2. OU3History
  - 2.3. Resource Characteristics
    - 2.3.1. Habitat
    - 2.3.2. Surface Water
    - 2.3.3. Groundwater
    - 2.3.4. Fish and Wildlife
    - 2.3.5. Human Use
  - 2.4. Summary of Response Actions
  - 2.5. Summary of Previous Investigations
  - 2.6. Overview of Requirements
    - 2.6.1. Injury Determination and Quantification
    - 2.6.2. Damage Determination
    - 2.6.3. Restoration Determination and Alternatives

- 3. Injury Determination and Quantification
  - 3.1. Injury Assessment Strategy
  - 3.2. Injury Determination
    - 3.2.1. Contaminants of Concern
    - 3.2.2. Pathways of Contamination
    - 3.2.3. Testing and Sampling Methodology
  - 3.3. Injury Quantification
    - 3.3.1. Ecological Services at OU3
    - 3.3.2. Ecological Services Evaluated/Not Evaluated
    - 3.3.3. Ecological Toxicity Benchmarks
    - 3.3.4. Estimating Loss of Aquatic Services
      - 3.3.4.1. Wetland Losses
      - 3.3.4.2. Stream Losses
    - 3.3.5. Estimating Loss of Terrestrial Services
    - 3.3.6. Estimating Loss of Human Uses
  - 3.4. Damage Determination
    - 3.4.1. Habitat Equivalency Analysis (HEA)
      - 3.4.1.1. Methodology
      - 3.4.1.2. Input Assumptions for OU3
      - 3.4.1.3. OU3 Features
      - 3.4.1.4. Assumptions
        - 3.4.1.4.1. Baseline
        - 3.4.1.4.2. Injury
        - 3.4.1.4.3. Natural Recovery
        - 3.4.1.4.4. Primary Restoration
        - 3.4.1.4.5. Compensatory Restoration
      - 3.4.1.5. HEA Results
        - 3.4.1.5.1. Debits
        - 3.4.1.5.2. Compensatory Restoration
    - 3.4.2. Human Use Analysis
      - 3.4.2.1. Methodology
      - 3.4.2.2. Input Assumptions for OU3
      - 3.4.2.3. OU3 Features

- 3.4.2.4. Assumptions
  - 3.4.2.4.1. Baseline Level of Recreational Use
  - 3.4.2.4.2. Current Level of Recreational Use
- 3.4.2.5. Economic Assessment Results
  - 3.4.2.5.1. Debits
  - 3.4.2.5.2. Compensatory Restoration
- 4. Restoration Determination and Alternatives
  - 4.1. Restoration Objective
  - 4.2. Restoration Selection Criteria
  - 4.3. Screening of Restoration Alternatives
  - 4.4. Scaling Restoration Alternatives
  - 4.5. Proposed Restoration Alternatives
    - 4.5.1. No Action
    - 4.5.2. Alternative A (Preferred Alternative)
    - 4.5.3. Alternative B
    - 4.5.4. Alternatives Considered but Dismissed
    - 4.5.5. Management
    - 4.5.6. Implementation
    - 4.5.7. Schedule
- 5. Environmental Consequences
  - 5.1. No Action
    - 5.1.1. Physical Environment
    - 5.1.2. Biological Environment
    - 5.1.3. Cultural and Human Environment
  - 5.2. Alternative A
    - 5.2.1. Physical Environment
    - 5.2.2. Biological Environment
    - 5.2.3. Cultural and Human Environment
  - 5.3. Alternative B
    - 5.3.1. Physical Environment
    - 5.3.2. Biological Environment
    - 5.3.3. Cultural and Human Environment
- 6. Impact Comparison Matrix

7. Monitoring Program and Performance Criteria
8. Preferred Alternative
9. Implementation
  - 9.1. Management
  - 9.2. Implementation
  - 9.3. Schedule
10. List of Preparers
11. List of Agencies, Organization, and Parties Consulted and/or Contacted
12. Literature Cited
13. Appendices

## ATTACHMENT B

### LIST OF LITERATURE TO BE USED TO SUPPORT ASSESSMENT AS APPLICABLE

A partial list of investigations includes:

- Agra Earth and Environmental (Agra), Inc. 2000. Site Inspection Analytical Results Report, Marsac Mill, Park City, Summit County, Utah. Consultant's report prepared for Park City Municipal Corporation.
- Ashland, F.X., Bishop, C.E., Lowe, M., and B.H. Mayes. 2001. The Geology of the Snyderville Basin, Western Summit County, Utah, and its relation to ground-water conditions, Water Resource Bulletin 28.
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- Bureau of Land Management (BLM). 2005. Removal Site Inspection, Silver Maple Claims. National Science and Technology Center. Denver, CO. April 25, 2005
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- Mason, J.L. 1989. Hydrology of the Prospector Square Area, Summit County, Utah, United States Geological Survey, Water Resources Investigation Report 88-4156.
- Michael Baker Jr., Inc. 2004. Silver Creek Total Maximum Daily Load for dissolved zinc and cadmium: Utah Department of Environmental Quality, Division of Water Quality, ([http://www.waterquality.utah.gov/TMDL/Silver\\_Creek\\_TMDL.pdf](http://www.waterquality.utah.gov/TMDL/Silver_Creek_TMDL.pdf))
- Park City Municipal Corporation. 1984. Construction Drawings for Prospector Detention Structure.
- Tetra Tech Inc. 2008. Lower Silver Creek, Utah, Reactive Transport Modeling Under High Flow Conditions for Cadmium and Zinc.
- Tetra Tech, Inc. 2008. Lower Silver Creek Data Summary Report, Park City, Utah.
- Tetra Tech, Inc. 2008. Lower Silver Creek Draft Wetland Delineation, Park City, Utah.
- Tillia, Ann M. 2001. Lower Silver Creek Innovative Assessment Work Plan, Utah Department of Environmental Quality Division of Environmental Response and Remediation.
- Tillia, Ann M. 2002. Innovative Assessment Analytical Results Report, Utah Department of Environmental Quality Division of Environmental Response and Remediation.
- U.S. Environmental Protection Agency and Upper Silver Creek Watershed Stakeholders Group. 2001. Data Interpretation Report Upper Silver Creek Watershed Surface Water/Stream Sediment Monitoring 2000
- United Park City Mines. 2005. Richardson Flat Record of Decision, (<http://www.epa.gov/region8/superfund/ut/richardsonflat/>)
- USDA. 1977. Soil Conservation Service, Soil Survey and interpretations Parleys Park Portion of Soil Survey of Summit Valley Summit County, Utah, Bulletin 495.

- USGS. 2005. Data-collection activities by the U.S. Geological Survey (USGS) in support of groundwater flow modeling being conducted by the Bureau of Land Management (BLM) near the Prospector Square Tailings Site, Park City, Administrative Report.
- Utah Department of Environmental Quality/Division of Environmental Response and Remediation (UDEQ/DERR) and the United States Geological Survey (USGS).1986. Water Resources of the Park City Area, Utah with Emphasis on Groundwater; Technical Publication No. 85.
- Utah Department of Health (UDH).1989. Groundwater and Surface Water Study Report, Silver Creek Tailing Site.

**APPENDIX H**

**SCOPE OF WORK – Park City**

**FOR**

**INJURY ASSESSMENT AND RESTORATION ALTERNATIVES ANALYSIS FOR THE  
RICHARDSON FLAT TAILINGS SITE, OPERABLE UNIT 4, PARK CITY, UTAH**

**April 26, 2012**



## **Introduction and Objectives**

This Statement of Work (SOW) is an attachment to the Administrative Settlement Agreement and Order on Consent for EE/CA Investigations and Removal Actions (Settlement Agreement). Park City Municipal Corporation (Park City or RESPONDENT herein) and United Park City Mines Company (UPCM) are respondents to the Settlement Agreement. Capitalized terms used in this SOW shall have the meaning assigned to them in the Settlement Agreement, unless the term is defined in the SOW.

This SOW describes the work to be performed by RESPONDENT to fulfill the requirements of Section X of the Settlement Agreement by conducting a Natural Resource Injury Assessment and Restoration Alternatives Analysis ("Injury Assessment and Restoration Alternatives Analysis") for OU4. RESPONDENT shall coordinate with the Natural Resource Trustees in performing this work. RESPONDENT shall provide all documents and responses required by this SOW to the Natural Resource Trustees, the Lead Administrative Trustee (LAT) and to the State Trustee's technical advisors identified in Section XXXIV of the Settlement Agreement. The Natural Resources Trustees will identify a LAT within 30 days of the Effective Date of this Settlement Agreement. Should the Natural Resources Trustees change the LAT, it shall notify the RESPONDENT of the change in designation. The Natural Resource Trustees intend to have the LAT provide coordinated comments to RESPONDENT regarding all activities and deliverables performed or prepared by the RESPONDENT.

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### **Project Description and Tasks**

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Title Page  
Signature Page  
Table of Contents  
List of Tables  
List of Figures  
List of Appendices

#### Summary

1. Introduction
  - 1.1. Authority
  - 1.2. Contents of This Document
  - 1.3. Public Participation
2. Purpose and Need for Restoration
  - 2.1. Purposed and Need
  - 2.2. Overview and History of OU4
    - 2.2.1. OU4 Location and Description
    - 2.2.2. OU4 History
  - 2.3. Resource Characteristics
    - 2.3.1. Habitat
    - 2.3.2. Surface Water
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    - 2.3.4. Fish and Wildlife
    - 2.3.5. Human Use
  - 2.4. Summary of Response Actions
  - 2.5. Summary of Previous Investigations
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    - 3.2.2. Pathways of Contamination
    - 3.2.3. Testing and Sampling Methodology
  - 3.3. Injury Quantification
    - 3.3.1. Ecological Services at OU4
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    - 3.3.4. Estimating Loss of Aquatic Services
      - 3.3.4.1. Wetland Losses
      - 3.3.4.2. Stream Losses
    - 3.3.5. Estimating Loss of Terrestrial Services
    - 3.3.6. Estimating Loss of Human Uses
  - 3.4. Damage Determination
    - 3.4.1. Habitat Equivalency Analysis (HEA)
      - 3.4.1.1. Methodology
      - 3.4.1.2. Input Assumptions for OU4
      - 3.4.1.3. OU4 Features
      - 3.4.1.4. Assumptions
        - 3.4.1.4.1. Baseline
        - 3.4.1.4.2. Injury
        - 3.4.1.4.3. Natural Recovery
        - 3.4.1.4.4. Primary Restoration
        - 3.4.1.4.5. Compensatory Restoration
      - 3.4.1.5. HEA Results
        - 3.4.1.5.1. Debits
        - 3.4.1.5.2. Compensatory Restoration
    - 3.4.2. Human Use Analysis
      - 3.4.2.1. Methodology
      - 3.4.2.2. Input Assumptions for OU4
      - 3.4.2.3. OU4 Features

- 3.4.2.4. Assumptions
      - 3.4.2.4.1. Baseline Level of Recreational Use
      - 3.4.2.4.2. Current Level of Recreational Use
    - 3.4.2.5. Economic Assessment Results
      - 3.4.2.5.1. Debits
      - 3.4.2.5.2. Compensatory Restoration
- 4. Restoration Determination and Alternatives
  - 4.1. Restoration Objective
  - 4.2. Restoration Selection Criteria
  - 4.3. Screening of Restoration Alternatives
  - 4.4. Scaling Restoration Alternatives
  - 4.5. Proposed Restoration Alternatives
    - 4.5.1. No Action
    - 4.5.2. Alternative A (Preferred Alternative)
    - 4.5.3. Alternative B
    - 4.5.4. Alternatives Considered but Dismissed
    - 4.5.5. Management
    - 4.5.6. Implementation
    - 4.5.7. Schedule
- 5. Environmental Consequences
  - 5.1. No Action
    - 5.1.1. Physical Environment
    - 5.1.2. Biological Environment
    - 5.1.3. Cultural and Human Environment
  - 5.2. Alternative A
    - 5.2.1. Physical Environment
    - 5.2.2. Biological Environment
    - 5.2.3. Cultural and Human Environment
  - 5.3. Alternative B
    - 5.3.1. Physical Environment
    - 5.3.2. Biological Environment
    - 5.3.3. Cultural and Human Environment
- 6. Impact Comparison Matrix



7. Monitoring Program and Performance Criteria
8. Preferred Alternative
9. Implementation
  - 9.1. Management
  - 9.2. Implementation
  - 9.3. Schedule
10. List of Preparers
11. List of Agencies, Organization, and Parties Consulted and/or Contacted
12. Literature Cited
13. Appendices

## ATTACHMENT B

### LIST OF LITERATURE TO BE USED TO SUPPORT ASSESSMENT AS APPLICABLE

A partial list of investigations includes:

- Agra Earth and Environmental (Agra), Inc. 2000. Site Inspection Analytical Results Report, Marsac Mill, Park City, Summit County, Utah. Consultant's report prepared for Park City Municipal Corporation.
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- Tetra Tech, Inc. 2008. Lower Silver Creek Draft Wetland Delineation, Park City, Utah.
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## APPENDIX I

### EXCEPTIONS OF WAIVER SET FORTH PARAGRAPH 108

If UPCM decides to undertake any Development Activity (as defined below) in any area within the Site or Upper Watershed which has not previously been assessed, UPCM shall conduct soil screening in accordance with the screening protocols set forth in Appendix J. If such screening identifies areas having more than 500ppm lead in soil, UPCM shall assess such areas in accordance with the assessment protocols set forth in Appendix K. Where necessary, UPCM shall address the contamination with UDEQ or EPA, as determined by such agencies. Empire Pass/Flagstaff will continue to operate under the Empire Pass Assessment Program. For purposes of this Appendix I only, "Development Activity" shall mean engaging in the actual construction (including site work) of permanent residential or commercial structures.

Each Respondent shall adhere to and be subject to enforcement under any Institutional Controls established prior to the effective date of this Settlement Agreement or implemented pursuant to this Settlement Agreement. Respondents shall each comply with dust control requirements of the State.

Park City may administer and enforce the Park City Drinking Water Source Protection Ordinance in existing or future source protection zones, and may amend such zones, and may implement, administer and enforce an MS4 ordinance, but only in a manner that is consistent with applicable law and appropriate engineering standards and methods. In addition, Park City shall not at any time administer or enforce either its current or future Drinking Water Source Protection Ordinance (including the development or application of any design standards or land management strategies), or any current or future ordinance concerning stormwater, including an MS4 ordinance (collectively, the "Water Ordinances") (i) by applying ordinances, regulations or standards retroactively to approved or applied-for uses, activities, or improvements; (ii) in a manner that attempts to subject property to unique requirements or is otherwise inconsistent with Park City's administration or enforcement of either ordinance to other property; (iii) in a manner that attempts to apply either of the Water Ordinances to any use, activity, improvement or property not currently awaiting approval, in connection with Park City's approval or regulation of another unrelated use, activity, or improvement; or (iv) in a manner that it is arbitrary or capricious or an abuse of its discretion. The foregoing language shall not limit the right to seek review of any action of Park City in the administration or enforcement of either of the Water Ordinances that is alleged to prevent or unreasonably delay or condition the development, construction, use, or operation of any land or improvements affected by the attempted administration or enforcement of either of such ordinances. Park City shall be responsible for all of UPCM's litigation costs (as defined by Rule 54 of the Utah Rules of Civil Procedure) and attorneys' fees (as defined by Rule 73 of the Utah Rules of Civil Procedure) associated with the

attempted administration or enforcement of either of the Water Ordinances where Park City is not the prevailing party on the merits in an action for judicial review of any such attempted administration or enforcement.

Park City may not take any action for any matter related to the Judge Tunnel and/or Spiro Tunnel, including under a Drinking Water Source Protection Ordinance or an MS4 ordinance, except to the extent UPCM actually brings new Waste Materials to Judge Tunnel or Spiro Tunnel after the effective date of this Settlement Agreement. Park City shall continue to provide required notice to persons served by the public water system pursuant to the Utah Safe Drinking Water Act.

## APPENDIX J

### Guidance for XRF Screening of Metals in Soil

#### Initial Site Reconnaissance

Prior to conducting the investigation work, an initial screening of the site should be performed to identify possible contamination and locations for investigation work. Areas of potential concern could include stained soil, stressed vegetation, and topographic mounding or depressions. Additionally, XRF *in situ* screening may be used to identify impacted soil.

#### Soil Screening

After identifying the main area of contaminated soil, soil screening may be conducted to identify lateral and vertical extent using a dynamic field sampling technique as described below:

The benchmark level above which soil will be considered contaminated is detection of lead in excess of 500 ppm

- Establish a grid surrounding the established source area. The size of the grid will be dependent upon the size of the site, and the site requirements for precision of delineation. Standard grid sizes are 5 and 10 feet but shall not exceed 10 feet for residential use.
- Screen samples in the field at each of the initial grid sample locations surrounding the source to identify metal concentrations. Each sample should be a five point composite sample collected from a depth interval of 1 to 6 inches using a dedicated plastic soil scoop. The sample will be sieved with a #10 sieve and placed into a dedicated seal-top baggie. The sample will be homogenized and shot with an XRF instrument to determine the metals level.
- Sample locations with elevated screening results will have another depth interval collected (6 to 12 inches) and screened in the same fashion as the 1 to 6-inch depth interval. Additionally, for each grid where the 1- to 6-inch depth interval is found to be contaminated, another 1- to 6-inch depth interval sample will be collected in the adjacent grid location in the direction away from the source.
- For each depth interval that is found to be contaminated, the next 6-inch depth interval sample will be collected up to a depth appropriate for the site or until a depth with no contamination is reached. Samples collected from deeper depth intervals may require the use of a sharpshooter shovel, auger, or drilling rig.

- Also, for each grid location found to be contaminated, the adjacent grid(s) in the direction(s) away from the source will be sampled until a grid location with no contamination is reached. Subsurface conditions such as large rocks may limit the ability of the coring equipment to penetrate to the desired depths in the subsurface. Efforts should be made to obtain the desired samples, but the collection depth for some samples may need to be modified based on subsurface conditions.

#### Post-Screening Analysis

After the field screening is completed, the soil samples may undergo further processing and XRF analysis as is appropriate for the site. For example, in areas with potential residential exposure samples may be sieved with a #60 sieve and re-analyzed to determine inhalation hazards. Additionally, 10 percent of the samples analyzed by XRF should be sent to a laboratory for confirmation of the field results.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 500  
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SDMS Document ID



2000231

ADMINISTRATIVE  
RECORD

**DRAFT FINAL**

## **REGION VIII SUPERFUND PROGRAM RESIDENTIAL SOIL LEAD SAMPLING POLICY**

**December 1999**

### **1.0 Introduction**

This document was prepared to assist all U.S. Environmental Protection Agency (EPA) Region VIII personnel, State personnel, and contractor/subcontractor personnel who conduct Superfund related residential soil lead sampling for or on behalf of EPA Region VIII. This document presents guidelines for collecting surface and subsurface soil samples. These guidelines call for utilizing a Removal and Remedial Program team approach. The successful implementation of this team approach will increase the likelihood of efficiently collecting appropriate and useful data, and reduce repeat sampling, thereby saving costs and staff time.

### **2.0 Goals**

Residential lead data collection must be consistent with these goals.

#### **2.1 Primary Sampling goal**

Define the nature and extent of contamination and determine where elevated concentrations of lead are present at levels posing an unacceptable risk to humans.

#### **2.2 Sample collection goals at residential lead sites**

Sample collection goals at residential lead sites include:

- 1) Collecting analytical data meeting the endangerment-based needs of the Removal Program and facilitating subsequent response actions addressing the chronic risk based needs of the Remedial Program, and
- 2) Minimizing the number of sampling events at a given location, thus reducing or eliminating duplicative effort.



Both programs need to collect sufficient data to support a site conceptual model. Critical Removal Program needs include: 1) "mass distribution," determining the nature and extent of contamination, 2) screening a large number of properties quickly, 3) considering only high risk sites, and 4) "construction and design", minimizing cleanup costs and removing a limited amount of impacted soil. Remedial Program data collection activities focus on: 1) considering sites with varying risk levels, 2) gathering chronic exposure data for health based risk assessments, 3) attributing contamination to a source or generator and, similarly to the Removal Program, 4) determining the nature and extent of contamination.

A team approach enables data users and technical experts to specify, prior to data collection, their particular needs and participate in data collection planning.<sup>1</sup> At a minimum, a site team shall consist of an OSC, RPM, and an EPA Regional Toxicologist. The site team will identify each programs' objectives, provide consistency within the Region over time at residential lead sites, minimize costs, and eliminate resampling and rework. Coordination between the programs will also occur during the Response Analysis Process (RAP).

The team approach also applies at sites when it is necessary to:

1. Collect media samples other than soil, i.e., paint, dust, blood lead, etc.
2. Consider other contaminants of concern, i.e., arsenic, etc. and
3. Gather analytical data for other receptors, e.g., ecological receptors.

### **3.0 Preparing For Field Sampling Activities**

#### **3.1 Problem Definition**

Specify the site problem (situation) in general terms and state the preliminary risk management goals. For example, define the boundaries of surficial soil lead concentrations above 400 ppm and above 2000 ppm on an exposure unit basis.

#### **3.2 Develop a Site Conceptual Model**

One of the primary objectives or end uses of residential lead sampling data involves determining whether unacceptable risk exists to human receptors at a site. To design a sampling plan that accomplishes this objective, the team must first develop a site conceptual model. This model must show a source or the presence of site contamination, how it moves in the environment, and how humans come into contact with contaminated media. It generally answers the following questions:

- 1) Who is being exposed?
- 2) Where are they being exposed? and

### 3) How are they being exposed?

The Region 8 Superfund Technical Guidance RA-05 provides detailed guidance on how to develop such a model.

### 3.3 Develop Project Plans

Study objectives must be specified before designing a sampling program. Those objectives include specifying the desired number of samples collected and their quality, e.g., field screening methods (i.e., XRF) or definitive analytical data.

The team will utilize existing quality assurance and quality control guidance documents, (QA/R-5 [EPA Guidance for Quality Assurance Project Plans], QA/G4 [Guidance for the Data Quality Objectives Process], ERB Quality Assurance Project Plan, OSWER Directive 9285.7-09A [Guidance for Data Useability in Risk Assessment (Part A)], ...) and the flow chart attached to this document.

In accordance with the development of data quality objectives (DQOs) as presented in EPA QA/R-5 the team will accomplish the following:

- Clarify the study objectives;
- Define the most appropriate type of data to collect;
- Determine the most appropriate conditions under which to collect the data;
- Define the precision, accuracy, representativeness, completeness, and comparability of the data required for the project;
- Specify the acceptable level of decision errors that will be used as the basis for establishing the quantity and quality of data needed; and
- Develop project schedules including time tables for reviewing and commenting on project plans.

### 4.0 Sampling

#### 4.1 Definitions

- "Surface" is zero to two inches (0 to 2") below the vegetative layer;
- Standard depth sampling intervals are: 0 to 2 inches, 2 to 6 inches, 6 to 12 inches, and 12 to 18 inches (if site specific conditions dictate);

- An "exposure unit" is the property immediately surrounding a residential unit, regardless of the size of the property. For sampling purposes, exposure units can be broken up into "zones";
- "Zones" are a further division of an exposure unit. Zones effectively break up exposure units into smaller, more manageable portions of property.
- A discrete sample is comprised of material collected by a single operation of a sampling device from a single medium from a single location.
- A composite sample is prepared by combining several discrete samples of a single medium collected from different locations.
- RPD (Relative Percent Differences) is the difference between two numbers divided by the average of the same two numbers.

For example:

Concentration values of 100 ppm and 50 ppm produce an RPD of 66%

$$\frac{(100-50)}{(100+50)/2} * 100 = 66.6\%$$

#### 4.2 Sampling Procedures

- Number of samples taken and sample locations shall be based upon the likeliness of children living on the property now and in the future.
- Composite surface soil samples, zero to two inches, below vegetative layer.
- **Properties less than 22,000 square feet (½ acre)** shall be divided into zones of approximately 5000 square feet or less. A **minimum** of two surface composite soil samples comprised of 3 to 5 subsamples shall be collected per zone. If two composite soil samples are taken, an RPD calculation shall be performed. An RPD value of 50% or less suggests an acceptable concentration variance within a zone. However, an RPD value greater than 50%, suggests an unacceptable variance within a zone.

Zones with an RPD greater than 50% and composite concentrations exceeding 400 ppm (the default Remedial Program screening level concentration) require resampling. Resampling the zone shall consist of :

- Collecting two or more composite samples consisting of 7 to 10 subsamples. Or,
- Collecting three or more composite samples consisting of 3 to 5 subsamples. Or,
- The zones be further divided into smaller zones/areas. Or,

- Actions deemed appropriate by the Removal and Remedial site team.
- **Properties greater than 22,000 square feet (½ acre)** also shall be divided into zones of approximately 5000 square feet or less. However, the number of surface composite samples taken and the timing associated with the collection of the samples in the "outer" zone(s) shall be determined by the team, on a site by site (or property by property) basis. An "outer" zone is defined as the area(s) furthest away from the residence/home.
- **Composite Subsurface Soil Samples**
  - Discrete subsurface composite sample locations shall be selected by the OSC or RPM. At each discrete location, soil from the 2 to 6 inch interval shall be composited, soil from the 6 to 12 inch interval shall be composited, and if site specific conditions dictate, soil from the 12 to 18 inch interval shall be composited.
  - The minimum number of subsurface composite samples per yard/zone shall equal the number of surface soil composite samples. Thus, for yards less than 5000 square feet, a minimum of two subsurface samples shall be taken. For yards divided into zones, each zone shall require a minimum of two subsurface composite samples.
- **Radial Progression Sampling Strategy**

As a starting point, teams should consider a radial progression sampling strategy at residential lead sites. That is, when the area of highest contamination is known or suspected, choose that location ( yard, neighborhood,...) and begin sample screening (sample collection and analysis) outward in concentric circles until the soil concentrations drop below an agreed upon lead screening action limit. This method creates an isobar at the agreed upon lead screening action limit around the known/suspected "hotspot".

The team shall develop a phased sampling approach if a radial progression sampling strategy is deemed inappropriate.

  - An OSC /RPM has the discretion to add samples based upon site specific conditions. However she/he shall consult with the team to reduce the number of samples collected or change the list of COCs.

#### 4.3 Sample Management

- Surface samples 0-2 inches must be sieved to 250 microns (60 mesh screen). Subsurface samples do not need to be sieved. If the site is very large and this requirement is too onerous, then enough samples need to be prepared and analyzed at both total and 250 micron size to develop a valid statistical comparison. A valid statistical comparison can typically be made with 20 - 30 site samples; and

- Samples collected during the emergency removal action shall be archived for six months unless another agreement is reached between the OSC and RPM. The RPM will arrange for the storage of archived samples.

## **5.0 Using Data for Determining Whether to Remediate**

### **5.1 General Clean-up Range**

Per OSWER Directive 9355.4-12 [Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities] and the May 29, 1997, memorandum from Steve Luftig, [Lead Site Response Decisions: Formation of the Lead Sites Consultation Group], residential soil clean-up levels for lead will normally be between 400 ppm and 1200 ppm. Clean-up levels outside of this range must be presented to the National Lead Policy group by Regional Management.

- Exposure units do not require remediation if the arithmetic mean concentration of the individual zones within an exposure unit falls below 400 ppm.
- Exposure units may require remediation when the arithmetic mean concentration of the individual zones, within an exposure unit, lies between 400 ppm and 1200 ppm.

For example:

A site action level is set at 700 ppm.

The site consists of 4 exposure units.

Based upon the arithmetic mean concentration of the individual zones making up each exposure unit, the exposure unit concentrations are:

Exposure unit one = 550 ppm

Exposure unit two = 1175 ppm

Exposure unit three = 650 ppm, and

Exposure unit four = 1000 ppm.

Exposure units two and four require remediation as their arithmetic mean concentration exceeds the action level of 700 ppm. Units one and three do not.

- Exposure units generally require remediation when the arithmetic mean concentration of the individual zones, within an exposure unit, exceeds 1200 ppm.

### **5.2 Selecting Zones to Remediate**

Exposure units needing clean-up shall be remediated on a zone by zone basis.

- Zones will be generally included in the Removal Action if the average surface soil concentration (top two inches) exceeds the action level; and

- Soil from zones that are marginally above the action level and below the 2000 ppm to 2500 ppm emergency removal level may not need to be remediated if they represent a small portion of the overall exposure unit and they are not considered a high-use-area. High use areas include: sand boxes, gardens, play areas, etc.

For example:

A site action level is set at 700 ppm.

An exposure unit consists of 4 zones.

The concentration within each zone is determined to be:

Zone one = 1200 ppm

Zone two = 650 ppm

Zone three = 500 ppm, and

Zone four = 750 ppm.

The arithmetic mean concentration for this exposure unit is 775 ppm.

Consequently, this exposure unit requires a clean-up.

- 1) Zones two and three do not require remediation as they are below the 700 ppm action level.
- 2) Zone one requires remediation as it exceeds the 700 ppm action level.
- 3) Zone four may or may not need to be remediated.
  - If zone four is a high-use-area, it requires remediation.
  - If zone four is not a high use area, the "new" arithmetic mean concentration of the exposure unit, following the remediation of zone one, will be less than 700 ppm. Thus, zone four will not require remediation.

### 5.3 Excavation Depth

The National Residential Lead policy will recommend that 12 inches is the maximum excavation depth at lead sites. However, OSCs and RPMs may excavate to 18 inches if site specific conditions dictate, i.e., source removal and garden areas.

### 6.0 Disputes

Team disputes will be brought to the attention of unit level supervisors for prompt resolution.

APPENDIX L  
MAJOR DELIVERABLES

DOCUMENT/ACTIVITY	REFERENCE	RECEIPIENTS	DUE DATE
Names, titles, qualifications of personnel to implement Removal Actions	Settlement Agreement Paragraph 29 (a)	EPA	60 days following EPA's issuance of Action Memorandum
Designation of project coordinator responsible for Removal Action Work	Settlement Agreement Paragraph 29 (b)	EPA	15 days following EPA's issuance of Action Memorandum
Draft Work Plan for performance of OU4 EE/CA	Settlement Agreement Paragraph 34 (b), 41	EPA UDEQ BLM FWS UDPR if impact on Rails & Trails State NR Trustee	60 days after the Effective Date
Request for additional data	Settlement Agreement Paragraph 36 (a), 41	EPA UDEQ BLM FWS UDPR if impact on Rails & Trails State NR Trustee	7 days after identification of need
EE/CA Progress Reports	Settlement Agreement Paragraph 38, 41	EPA UDEQ BLM FWS State NR Trustee UDPR if impact on Rails & Trails Other Respondent	Quarterly



DOCUMENT/ACTIVITY	REFERENCE	RECEIPIENTS	DUE DATE
Notice of significant field events	Settlement Agreement Paragraphs 40 (b), 41	EPA UDEQ BLM FWS UDPR if impact on Rails & Trails State NR Trustee	30 days prior to the event
All EE/CA plans, reports or other submittals required by Section IX of the Settlement Agreement	Settlement Agreement Paragraph 41	EPA UDEQ BLM FWS UDPR if impact on Rails & Trails State NR Trustee	As set forth in Settlement Agreement, work plans or SOWs.
Removal Action Work Plans	Settlement Agreement Paragraphs 45 (a), 50	EPA UDEQ BLM FWS State NR Trustee UDPR if impact on Rails & Trails	60 days following EPA's issuance of Action Memorandum
Health and Safety Plans	Settlement Agreement Paragraphs 46, 50	EPA UDEQ BLM FWS UDPR State NR Trustee	60 days following EPA's issuance of Action Memorandum
Removal Progress Reports	Settlement Agreement Paragraphs 48(a), 50	EPA UDEQ BLM FWS UDPR if impact on Rails & Trails State NR Trustee Other Respondent	Quarterly
Notice of transfer of site property	Settlement Agreement Paragraph 48 (b)	EPA UDEQ	30 days prior to transfer

DOCUMENT/ACTIVITY	REFERENCE	RECEIPIENTS	DUE DATE
Final Removal Report	Settlement Agreement Paragraphs 49, 50	EPA UDEQ BLM FWS UDPR if impact on Rails & Trails State NR Trustee Other Respondent	30 days after completion of Work
All Removal Action plans, reports or other submittals required by the Settlement Agreement	Settlement Agreement Paragraph 50	EPA UDEQ BLM FWS State NR Trustee UDPR if impact on Rails & Trails	As set forth in Settlement Agreement, work plans or SOWs.
Notification of off-site shipment of Waste Material	Settlement Agreement Paragraph 51	EPA Official in receiving state	Prior to shipment
Notice of Potential Mine Waste Repository Locations	Settlement Agreement Paragraph 52	EPA	60 fdays after the Effective Date
Notice of Force Majeure	Settlement Agreement Paragraph 88	EPA	48 hours after
Certificates of Insurance	Settlement Agreement Paragraph 116	EPA UDPR	30 days prior to commencing work on-site
Financial Assurance for EE/CAs	Settlement Agreement Paragraph 117 (a)	EPA	60 days of Effective Date of Settlement Agreement
Financial Assurance for Removal Actions	Settlement Agreement Paragraph 117 (b)	EPA	60 days after issuance of Action Memorandum
OU3 Sampling and Analysis Plan, which includes EE/CA Field Sampling Plan, Health & Safety Plan & QAPP	OU3 EE/CA Work Plan	EPA UDEQ BLM FWS UDPR State NR Trustee	3 months of Effective Date of Settlement Agreement

DOCUMENT/ACTIVITY	REFERENCE	RECEIPIENTS	DUE DATE
OU3 Site Characterization Report	OU3 EE/CA Work Plan	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	90 days from UPCM's receipt of analytical laboratory data
OU3 EE/CA Outline	OU3 EE/CA Work Plan	EPA UDEQ BLM FWS State UDPR if impacts Rails & Trails NR Trustee	Concurrent with submittal of Site Characterization Report
OU3 Draft EE/CA Report	OU3 EE/CA Work Plan	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	3 months after EPA approval of Site Characterization Report
OU3 Final EE/CA Report	OU3 EE/CA Work Plan	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after receipt of EPA comments on draft EE/CA Report
OU4 Sampling and Analysis Plan , which includes EE/CA Field Sampling Plan, Health & Safety Plan and QAPP	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after EPA approval of OU4 EE/CA work plan
OU4 Field Sampling Reports	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails property	30 days after Park City's receipt of data validation for each sampling event

DOCUMENT/ACTIVITY	REFERENCE	RECEIPIENTS	DUE DATE
OU4 Site Characterization Report	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	90 days from Park City's receipt of all analytical laboratory data
OU4 EE/CA Outline	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	Concurrent with submittal of Site Characterization Report
OU4 Draft EE Report	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	60 days after EPA approval of Site Characterization Report
OU4 Final EE Report	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after receipt of EPA comments on draft EE Report
OU4 Draft CA Report	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after receipt of EPA approval of final EE Report
OU4 Final CA Report	OU4 SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after receipt of EPA comments on draft CA Report

DOCUMENT/ACTIVITY	REFERENCE	RECEPIENTS	DUE DATE
OU3 Draft Assessment and Restoration Analysis	OU3 NRD SOW	EPA UDEQ BLM FWS State NR Trustee UDPR	30 days after EPA approval of the final OU3 EE/CA Report
OU3 Final Assessment and Restoration Analysis	OU3 NRD SOW	EPA UDEQ BLM FWS State NR Trustee UDPR	30 days after EPA issuance of the OU3 Action Memorandum
OU4 Draft Assessment and Restoration Analysis	OU4 NRD SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after EPA approval of final OU 4 EE/CA Report
OU4 Final Assessment and Restoration Analysis	OU4 NRD SOW	EPA UDEQ BLM FWS State NR Trustee UDPR if impacts Rails & Trails	30 days after EPA issuance of the OU4 Action Memorandum